PLAIN and FULL

INSTRUCTIONS

To Raiſe all Sorts of

FRUIT-TREES

That proſper in

ENGLAND;

In that Method and Order, that every thing muſt be done in, to give all the advantage, may be, to every Tree as it is riſing from its Seed, till it comes to its full growth.

TOGETHER

With all neceſſary Directions about thoſe ſeveral ways of making *Plantations*, either of *Wall-Fruit*, or *Dwarf-Trees* in *Gardens*, or large *Standard-Trees* in *Orchards* or *Fields*.

Touching which laſt, becauſe it's ſo vaſt an Improvement of Land, all the profitable and practical ways are here directed to with all exactneſs.

And alſo the beſt Directions are given for making *Liquors* of ſeveral Sorts of *Fruit*.

The *Second Edition* Reviſed and Enlarged in many places: Together with an Addition of two intire Chapters of *Greens* and *Green-houſes*. By the Author.

T. LANGFORD, Gent.

LONDON:
Printed for *R. Chiſwell*, and Sold by *D. Midwinter* and *T. Leigh*, at the *Roſe* and *Crown* in St. *Paul's* Church-Yard. 1699.

TOUT DROIT.
Fortunam sapientes ferunt
Mr George Carre Advocate

TO HIS

Honoured Maſter,

Sir *Samuel Grimſton*, Bar.

SIR,

SInce the Nation hath thought the following Treatiſe *worthy their acceptance by taking off a large Impreſſion, I preſume to preſent this* (*with what* Additions *it hath*) *to you. It is your* Right, *for in your* time *I compos'd it, ſo I account all* mine, *And though I ſpent ſome of it in* this, *I was*

well aſſured that to employ the ſpare-hours *your buſineſs allow'd me in ſuch* Exerciſes, *was not diſagreeable to you, which did encourage therein.*

Honoured Sir,

Your moſt Dutiful

and Obedient Servant.

T. Langford.

TO

TO THE READER.

IF the obſecurity of the Author ſhall frighten any Man, that takes this Book up in his hands, I ſcarce look he ſhould read over the Title before he reject it; but then he muſt be content to be told the truth, that he doth not do well in it, becauſe he doth he knows not what, and may do himſelf a greater diſcourteſie than he is aware.

I think there are few Books of this kind extant, and of note, but I have read them, and been the better for it, and named

ſome of them ſometimes in what follows, and will not detract from them any further, than to ſay, I ſee no reaſon why for any of them, or all of them together, this may not be acceptable, but much reaſon why it ſhould; and that's the chief thing I deſire the Reader may underſtand.

I am not ſo fondly conceited of what I have here done, as to think there may not be ſome that may know as much as is here ſaid of Planting without my telling them; but they muſt then know more than is to be found in Books already; and I fancy too, ſome (even amongſt them) may meet with ſome things here of uſe, that they may never have taken notice of, though the Tract be calculated chiefly for young beginners, and ſuch as are unle ſect.

I ſhould

I ſhould not mention the convenience of the ſmalneſs of the *Volume*, being thereby the more cheap and profitable, and of readier uſe; but that it may be noted, that ſome of the moſt excellent Books of this kind are in *Folio*, and therefore both dear and tedious: *And I will affirme* that *there is more choice Obſervations in Mr.* Evelins *Calendarium Hortenſe*, and Mr. *Gilberts Tract* of *Flowers, then in ſeveral large Books of this Nature.* There are others indeed not much bigger than this, but the one half of them, and ſometimes more, rather an hindrance than a furtherance to a man that would ſet himſelf to work by them; for the Rules and Directions he is then to go by, are almoſt loſt and ſmothered among *Moral*, *Myſtical*, and *Philoſophical Diſcourſes*, *Quotations*

ons, and ſometimes *Whimſies*, *Crochets*, and *Legendary Tales*, ſo that he that enquires into them finds himſelf in a *Wood* before ever he hath raiſed one *Tree*: And yet it ſeems moſt of theſe Writers could not for their hearts forbear, (for ſome opinion of fineneſs and gayety in them) but out they muſt come; and they did not amiſs, if they intended their Books only for the delight of reading; but certainly unadviſedly, if they deſigned them only for uſe.

I have therefore pruned off all ſuch ſuperfluous branches, and here ſhewed the plain *Dunſtable* way to the propagating of all manner of *Fruit-trees*, without leading the learner through *buſhes*, and a *wilderneſs* of Words, to tire and looſe himſelf with a little diverſion.

I have been long acquainted with raiſing *Fruit-trees*, and I think have left out nothing conducible to this end, that is any where elſe to be met with, and have added much more, and yet nothing but what is neceſſary to carry on this Art further, if not fully to perfection; having had it all along in my deſign, to guide the Planter in every the moſt *minute* particular, and in that *order*, that if he ſhould have ſome old experienced Maſter always at his Elbow when any thing is to be done, he could not do it better, and be leſs at a loſs.

And I verily believe, nothing hath hindred *Planting* more among us than this, That Books are no more curious to acquaint People in every *circumſtance* that is needful to a due conduct of this buſineſs; and therefore for want of

of ſome *ſlight* obſervations in appearance, but of *great conſequence* in reality, ſome very much diſpoſed this way, meeting with unexpected and frequent *diſappointments*, have knockt off before they have well begun, and then fallen to thinking that the vaſt improvement of Land by *Planting*, is but ſuch a kind of talk, as that of the *Philoſophers Stone*, goodly Words but no Wooll.

The manner of expreſſion I have uſed is plain, I have abſtained carefully from all hard words, as judging it to much more purpoſe to be underſtood by a Plow-man, than commended by a Scholar.

And becauſe I find *Greens* to be not only very *ornamental in* Gardens and Avennues, but affected by the Curious, I have in this Edition added a *compleat*

Tract

Tract of them, I am ſure ſuch as hath not yet appeared in Print.

And ſo ſhall ſay no more, but that if this be not enough to diſpoſe him that knows of it, to read this Book, it will be to as little purpoſe to ſay ten times more. Farewell.

T. L.

Mr.

Mr. *Chiſwell.*

I *Have read the* Treatiſe *of* Fruit-trees, *&c. which you lately put into my hand, and find the intire Myſtery ſo generouſly diſcover'd from its very* Rudiments, *to its full perfection; that (with the ingenious and experienced* Author) *as I know of nothing extant which exceeds it, ſo nor do I of any thing which needs be added to it. The* Gentleman *will by this free communication much oblige the whole Nation, and therefore needs not the ſuffrage of*

Your humble Servant,

J. EVELIN.

TO

To his Worthy Friend

Mr. Langford, &c.

HAppy the Time, wherein the fertile Earth
Uncultivated and until'd, brought forth
All that would pleaſe our Palate or our ſight,
And gratifie each curious Appetite.
No antecedent labour griv'd her Womb
But freely did the eaſie iſſue come,
Till for man's ſake ſhe did receive a Curſe
And ſince wants both a Midwife and a Nurſe.
Now Art muſt firſt the barren ſoil prepare,
And the well choſen ſeed, diſpoſe with care,
This done, 'tis hard to bring the Seed to Birth
If Midwifes skill help not the labouring Earth,
And if the Iſſue be brought forth alive,
We ſcarce can make the tender product thrive,
But you my Freind by kind inſtructions ſhew
A method eaſie and ſuccesful too;
How with ſome little care to meliorate
Our very unhappy, but deſerved fate;
I don't pretend and therefore would not ſeem
To pre-ingage the Readers good Eſteem,
That task is needleſs, for your labours claim
And have already acquir d a worthy name.

I am

I am told the thing's well done, believe it too
For't has before appear'd to publick view:
I have nothing more to add but only this
To thank you for your profitable piece,
Whereby I am taught to improve a future ſpote
Of Earth, when ever it ſhall be my Lot.
The beſt of Poets ſhould ſing forth your praiſe;
For you it is that give to them their Bays:
The Crowns they wear you teach 'em how to raiſe.
However I thank you, Sir, who am no Poet,
And take this oppertunity to ſhew it.

J. S.

THE

THE CONTENTS.

The INTRODUCTION.

Shewing the reaſon why a Planter ſhould have a Nurſery of his own. And touching buying out of Nurſeries.

CHAP. I.

Of the Seminary.

Sect. 1. *How the ground is to be ordered for the Seminary.*
Sect. 2. *How Stones are to be ſet.*
Sect. 3. *Of ſetting Nuts.*
Sect. 4. *How the ſowing of Seeds is to be ordered.*
Sect. 5. *How to ſecure what's ſet or ſown from prejudice.*
Sect. 6. *How to order theſe Plants when they are come up.*
Sect. 7. *What kind of Stones and Seeds are to be ſet and ſown to make proper Stocks for all kind of Fruit.*

Sect. 8. *Other ways of raiſing Stocks.*
Sect. 9. *A ſpeedy way to raiſe Stone-Fruit, for furniſhing vacancies of a Wall.*

CHAP. II.

Obſervations concerning the raiſing of Stocks in the Seminary or elſewhere.

Sect. 1. *Seeds and Stones produce not Trees that without graffing,* &c. *will bear the ſame Fruit as that out of which they were taken.*
Sect. 2. *Concerning Stocks for Peaches, Apricocks, Nectarines, and Plums.*
Sect. 3. *Of Stocks for Cherry-Trees.*
Sect. 4. *The Scion that is graffed,* &c. *muſt have ſome agreement in nature with the Stock.*
Sect. 5. *Stocks may contribute ſomething to the bettering of the Fruit.*
Sect. 6. *That Crab-kernels yield beſt Stocks for Orchards and Fields, yet Apple-kernels are of ſpecial uſe.*
Sect. 7. *A Diſcourſe of the ſympathy betwixt the pith of a Tree and the kernels of its Fruits.*

The Contents.

CHAP. III.

Of Tranſplanting the Seedlings.

Sect. 1. *Of what growth the Seedlings muſt be before they are removed into the Nurſery, and how they and the ſoil for them muſt be ordered.*

Sect. 2. *In what Order and Manner they are to be ſet at this removal, and how to be ordered.*

Sect. 3. *Some difference to be obſerved about Stocks to be ſet in Fields, and how all thoſe young Stocks are to be dreſſed up.*

CHAP. IV.

Of Inoculating.

Sect. 1. *The way of Inoculating deſcribed.*

Sect. 2. *Of the different ways of Inoculating.*

The Contents.

CHAP. V.

Obſervations concerning Inoculating.

Sect. 1. *Several neceſſary things to be obſerved about Inoculating.*
Sect. 2. *How high above ground the Stocks are to be Inoculated, and the proper Size.*
Sect. 3. *Of Buds that are to be inoculated, and when Inoculation is to be uſed rather than Graffing.*
Sect. 4. *Reaſons why Inoculating is to be preferred before Graffing, where it may be uſed.*
Sect. 5. *What time of the day is beſt for Inoculating.*

CHAP. VI.

Of the ſeveral ways of Graffing.

Sect. 1. *Of Slicing or Packing.*
Sect. 2. *Of Graffing in the bark, and the reaſon why theſe two are the beſt ways of graffing.*
Sect. 3. *Of Whip graffing.*
Sect. 4. *Of Side-graffing.*
Sect. 5. *Of Graffing in the Cleft.*
Sect. 6. *Of Graffing by Approach.*

CHAP.

The Contents.

CHAP. VII.

Obſervations concerning Graffing.

Sect. 1. *What bigneſs Stocks are to be of at Graffing.*
Sect. 2. *About the choice of Scions, or Graffs, and time of cutting them.*
Sect. 3. *Of the time of Graffing.*
Sect. 4. *Of cutting of Graffs, and ordering them before Graffing.*
Sect. 5. *About the joynt in a Graff or Scion, and how high Stocks are to be graffed above ground.*
Sect. 6. *What courſe may be taken to know readily of what kind every Tree is.*

CHAP. VIII.

Of Planting Wall-Fruit.

Sect. 1. *The beſt time to remove young Trees after Graffing and inoculating.*
Sect. 2. *Of preparing the ground for Wall-fruit, and what diſtance is to be obſerved in ſetting ſuch Trees.*
Sect. 3. *How to temper the Soil for them, and to ſettle their roots in holes they are to be ſet in.*

Sect. 4. *How to order a Tree in ſpreading it upon a Wall.*
Sect. 5. *The roots are ſometimes to be bared, and the ſoil about them recruited.*
Sect. 6. *How the ſoil for theſe, or other Trees is to be amended.*
Sect. 7. *How to renew old Trees.*
Sect. 8. *Directions what Walls are proper for each kind of Fruit.*
Sect. 9. *Inſtructions about making the Wall.*

CHAP. IX.

Concerning Dwarf-Trees.

Sect. 1. *The advantage of Dwarf-trees.*
Sect. 2. *Stocks for Dwarf-Pear-Trees.*
Sect. 3. *What Stocks are beſt for Dwarf-Apple-trees.*
Sect. 4. *What things are to be obſerved in getting and ordering Cuttings that are to be ſet for Stocks.*
Sect. 5. *How they may be helped to roots by Circumpoſition.*
Sect. 6. *Other ways to raiſe Stocks for Dwarf-trees.*
Sect. 7. *Of raiſing them of Suckers.*
Sect. 8. *How to raiſe Stocks for Cherries and Plums.*

Sect. 9. *How to order the heads of Dwarf-trees.*

Sect. 10. *Codling-hedges and Trees may be raiſed from the Cuttings only of ſuch Trees whoſe Cuttings will grow.*

Codlings and Moils may be graffed on Crab-ſtocks.

CHAP. X.

Of Planting an Orchard.

Sect. 1. *How to chooſe ground for an Orchard.*

Sect. 2. *Directions how to qualifie that ground when it is not of it ſelf (as divers ways it may not be) fit for Planting.*

Sect. 3. *How an uneven ground is to be ordered in Planting.*

Sect. 4. *The time and manner of ordering Trees in planting an Orchard.*

Sect. 5. *How long they remain in the Nurſery after Graffing before they are tranſplanted.*

Sect. 6. *Of the diſtance theſe Trees ought to be ſet at one from another.*

Sect. 7. *Whether old Trees or young are fitter to be tranſplanted, and how to order old ones at ſuch a time.*

Sect. 8. *What order theſe Trees are to be ſet in.*

Sect. 9. *Concerning the fence for an Orchard.*
Sect. 10. *Concerning Pruning of Orchard-trees.*
Sect. 11. *The ſoil about their roots muſt ever after be kept in good heart.*
Sect. 12. *The diſtributing ſeveral kinds of* Fruit-Trees *in and about an Orchard.*

CHAP XI.

Of Planting in Fields.

Sect. 1. *Exceptions againſt Planting in Fields anſwered.*
Sect. 2. *Reaſons to ſhew it's profitable to plant Pear-Trees in Fields.*
Sect. 3. *Seven ways.*
The firſt, *By planting in whole Fields.*
Sect. 4. A ſecond *way of planting in Fields, where an account is given how ſuch Trees may beſt be fenced.*
Sect. 5. The third, *By doing it near Hedges.*
The Advantages.
The Diſtance.
Where not good.
Sect. 6. The Fourth, *In Hedges.*
Sect. 7. The Fifth, *By Cuttings.*
Of choice, and ordering them for that purpoſe.

The Contents.

Sect. 8. The Sixth, *By long Crab-ſtocks.*
Advantage.
Diſadvantages.
Sect. 9. The Seventh, *By Graffing old Crab-trees.*
Directions therein.
Of doing it in the Cleft or Bark, with ſome difference from graffing ſmall Stocks in the bark.
Directions to prevent the breaking out of the Scions;
And for pruning the bodies.

CHAP. XII.

Of the Annoyances about Fruit-trees; and of ſome miſtakes in planting and ordering them.

Sect. 1. *To prevent Moſs and Canker, &c.*
Sect. 2. *To preſerve Trees from Hares, or Rabbets.*
Sect. 3. *Againſt Ants or Piſmires.*
Sect. 4. *Of Moles, Water-Rats, Snakes, Emets or Askers.*
Sect. 5. *To prevent Blaſting, Caterpillers, Snails,* &c.
Sect. 6. *Of rectifying ſome miſtakes commonly practis'd by Planters.*

CHAP. XIII.

Some particulars about raiſing ſome kinds of Fruit-trees.

Sect. 1. *Directions about planting Vines.*
Sect. 2. *Of the Soil and manner of propagating them and renewing old Vines.*
Sect. 3. *Of Pruning them.*
Sect. 4. *Concerning Vineyards.*
Sect. 5. *Of planting Fig-trees.*
Sect. 6. *Of raiſing Quince-trees.*
Sect. 7. *Of propagating the Medlar and Serviſe-tree.*
Sect. 8. *Of Walnut-trees.*
Sect. 9. *Of raiſing Mulberry-trees, Gooſberries, Currans, Barberries, and Rasberries.*

CHAP. XIV.

Of the ſeveral kinds of Fruits.

Sect. 1. *That it's convenient to have variety of Fruit.*
Sect. 2. *Of ſeveral ſorts of Peaches.*
Sect. 3. *Of Nectarines.*
Sect. 4. *Of Apricocks.*
Sect. 5. *Of Plums.*

Sect. 6. *Of Cherries.*
Sect. 7. *Of Grapes.*
Sect. 8. *Of Pears.*
Sect. 9. *Of Apples.*
Sect. 10. *Of Quinces.*
Sect. 11. *Of Walnuts, Cheſtnuts, Filbeards,* &c.
Sect. 12. *Of Figs, Medlars, and Serviſes.*
Sect. 13. *Of Mulberries, Goosberries, Currans, Rasberries and Barberries.*

CHAP. XV.

Of gathering Fruit, and making ſeveral ſorts of liquors.

Sect. 1. *Of gathering Fruit and ordering them in keeping.*
Sect. 2. *Of a Ladder.*
Sect. 3. *Of a Mill.*
Sect. 4. *Of Syder.*
Sect. 5. *Of Perry.*
Sect. 6. *Of Rasberry Wine.*
Sect. 7. *Of Curran Wine.*
Sect. 8. *Of Apricock Wine.*
Sect. 9. *Of Goosberry Wine.*
Sect. 10. *Another way to make any of the three laſt ſorts of Wine, and Sherry.*
Sect. 11. *Sherry and Goosberry Brandy.*
Sect. 12. *Of liquors extracted out of trees.*

Sect. 13. *Of Vinegar or Brandy extracted out of Syder.*
Sect. 14. *Of Elder-berry Wine.*

CHAP. XVI.

Of Greens and Green-Houſes.

Sect. 1. *An introduction, and general Rules for raiſing Greens.*
Sect. 2. *By Suckers or Off-ſets.*
Sect. 3. *By Layers.*
Sect. 4. *By Cuttings or Slips.*
Sect. 5. *Of Green-houſes.*
Sect. 6. *Of a Green-houſe ſunk in the ground.*
Sect. 7. *Some general Rules for ordering Greens.*

CHAP. XVII.

Of ſeveral Plants in Particular.

Sect. 1. *Of Oranges and Limon-trees, from Seeds and ordering them.*
Sect. 2. *Of buying Trees as they come from beyond Sea.*
Sect. 3. *Of preparing Earth for the Pots, or Caſes.*

The Contents.

Sect. 4. *Of Pruning.*
Sect. 5. *Of Bays and Lawrels.*
Sect. 6. *Of Holly and Yew.*
Sect. 7. *Of Cypreſs and Juniper.*
Sect. 8. *Of the Firr and Pine-Tree.*

An aditional Account of them by an Eminent Gardiner.

Sect. 9. *Of Phyllirea and Alaternus.*
The Concluſion.

THE

THE INTRODUCTION.

HAving undertaken in this *Book* to publiſh all neceſſary Directions concerning *Planting*, the firſt ſtep I am to take, (to proceed in due *order*) is to give inſtructions about *Seminaries*, and *Nurſeries*, wherein young *Plants* are to be raiſed and cheriſhed in their Infancy.

And becauſe men are generally (through ignorance) ſo indifferent whether they have theſe of their own or no; becauſe for a little Money they can have *Plants* from others ready brought up to their hands; therefore I ſhall here in the firſt place preſent ſuch with reaſons, that I ſuppoſe cannot but make them of the ſame mind, that I am my ſelf, That it's far better to have them of their own bringing up, and to have *Seminaries* and *Nurſeries* of their own for this purpoſe.

1. Becauſe this way a Man ſhall be ſure to meet with no failure, either in the kind or goodneſs of his *Trees*, and *Fruit*; in both which he ſhall be often diſap-

diſappointed, if he have his *Trees* upon *truſt* from others, who make a *Trade* of ſelling them, and are therefore many times incurious in *raiſing* them, and inſtead of the *right* kind (if they can get any thing by it) will not ſtick to put him off with another.

2. The *trouble* and *expence* of buying young Plants, and getting them home, (many times from places very *remote*) and the *prejudice* they often receive in the *carriage*, will be wholly prevented.

3. This way a Man ſhall with almoſt the ſame labour and charge, both furniſh himſelf ſufficiently, and have ſo many more as to defray the charge he may be at about it, if he will ſell them, or to gratifie his Friends if he had rather beſtow them.

4. He will this way be provided with *Stocks* for *Apples*, *Pears*, *Plums*, *Cherries*, and all choice *Wall-fruit* raiſed from *Kernels* and *Stones* of *Fruit*: which are incomparably better than Stocks procured any other way.

The means ſome uſe to furniſh themſelves with *Stocks* for *Apple-trees* is, by getting young *Crab-trees* out of *Hedges*, *rough Grounds* and *Woods*; and with *Stocks* for *Pears*, *Plums*, and *Cherries* by

Suckers

Suckers ſpringing from the Roots of old *Trees* of thoſe kinds; but there is much to be ſaid againſt both courſes.

Againſt uſing thoſe *Crab-trees* got out of *Woods*, *&c.* there lie theſe Objections.

1. The workmen in getting them break ſome, and hurt others of the principal Roots; and it ſometimes falls out that they have been cut down, and ſprung up again out of the remaining ſtump, or otherwiſe hurt, which though not eaſily diſcerned becauſe skinned over, yet will be a prejudice to them for ever.

2. Many of the *Stocks* ſo got out of *Woods*, and *Hedges*, have for want of room, and by reaſon of ſhades, and the droping of other trees about them, been check't and baffled in their growth, and ſo become crooked, ſcabby, ill grown, rough, and unkindly, and never like to make good Trees.

3. Some that furniſh themſelves this way with Stocks, chooſe ſuch as are largeſt, and thoſe having for the moſt part thick and hard *bark*, and old *roots*, come on but ſlowly when they are removed to make *Apple-trees*.

4. If theſe *Stocks* be not *graffed* very low (and if they are, a years growth or

two will be loſt) they will put forth branches of their own every year in ſuch abundance, that without conſtant pruning of them off, the *graffs* will be in danger of being ſtarved.

5. A better advantage may be made of *Crab-trees* in Hedge-rows and rough grounds, by graffing them where they are, (as you ſhall be hereafter directed) where they will thrive better.

There is but one ſcruple (that I can foreſee) that can here be ſtarted; and that is, that a man cannot be furniſhed with *Trees* of a good largeneſs to bear ſo ſoon by *ſtocks* raiſed by *Kernels* and *Stones*, as by either thoſe gotten out of Woods, *&c.* or thoſe raiſed by *Suckers*, that may be of ſeveral years growth before they are made uſe of.

To this I anſwer, That if at the ſame time that you get *Crab-tree-ſtocks*, (of ſix or ſeven years growth) out of the *Wood*, or *Suckers*, and ſet them in order to be *graffed*, you ſow *Kernels* and *Stones*, the Stocks and Suckers you ſo graff, for ſix or eight years may continue larger and bigger than the *Trees* that come of *Kernels* and *Stones*; but yet theſe leſſer *Trees* ſhall ſo get ground of the other, that by the *tenth* or *twelfth* year

year the *Apple-trees* and *Pear-trees*, and much ſooner *Stone-fruit-trees* ſhall have overtaken them.

And as to the way of raiſing *Stocks* for *Pears*, *Plums*, and *Cherries* by *Suckers*, it is to be noted, that Trees ſo raiſed will be ever apt to caſt up ſuch *Suckers* themſelves; and ſuch as do, are ſeldom found to be good bearing *Trees*, by reaſon they expend their *Sap* ſo much that way.

Nevertheleſs they may be uſeful for *Wall-fruit* and *Dwarf-trees*, as you will ſee hereafter in a peculiar Chapter.

And laſtly againſt both theſe ways of furniſhing a mans ſelf with the aforemention'd *Stocks* there is this to be ſaid, That a man ſhall not without great charge and difficulty ſtore himſelf with as many as he may deſire, and many of them will prove bad and miſcarry, whereas from *Kernels* the charge is inconſiderable, and plenty may be had, that will almoſt all be fit for uſe.

Yet this I ought to ſay in favour of buying out of *Nurſeries*.

1. Thereby a great deal of *time* is gain'd by the Planter (*viz.*) ſeven or eight years in *Standard-trees*, and four or five in *Wall* and *Dwarf-trees*; which is very conſiderable.

2. It will be very difficult for a Planter to be furniſht with many good ſorts of *Fruit*, and of what kind he may deſire any where elſe, ſo eaſie and fully as there. And I think no one can be better furniſh'd than they may by their Majeſties Gard'ner and Mr. *Wiſe*, who have a Nurſery at *Brampton Park* near *Kenſington*, the Soil whereof is not over *enricht* with the Fat of *London*, ſituate in a *Sharp Air*, they are careful in furniſhing the Buyers with *true Kinds*; and I verily believe have already the beſt *Collection* in *England*, and it will ſtill be improv'd by new and *unknown Plants*, &c. as to us, from that famous *Garden* (for variety of *Kinds* in the known World) at the *Cape of good Hope*.

CHAP.

CHAP. I.

Of the Seminary.

SECT. 1. Againſt the beginning of *October* prepare Ground by digging and cleanſing it from *weeds* and *roots*, making the *mold* very fine, chooſe not a *wet* or very *ſtiff-Clay-land*, nor over *rich* with *Dung*, but ſuch as being of it ſelf good, you may make better only with a little mixture of very *rotten dung*, let it be fenced from the cold, as well as you can, ſo that it be free from ſhade, and dropings of Trees. Of ordering the Ground.

Sect. 2. When you ſet *Stones*, (which if they be *Stones* of Fruit ſoon ripe, you muſt keep in ſand till *October*) do it by a Line, pricking holes about a hands breadth diſtance one from another, and then put in the *Stones*, about three inches deep with the ſharp end uppermoſt; when one *row* is finiſhed remove your Line a *foot* further, and ſet another *row* in the ſame manner; but let your third *row* be about *two foot* diſtant from the *ſecond*, that you may have liberty to go betwixt every *two rows* to weed, *&c.* and Of ſetting Stones.

ſo proceed to ſet as many as you have a mind; poſſibly ſome of theſe Stones may not come up till the ſecond ſpring after they are ſet, and may not deceive you if you then expect them.

Of ſeting Nuts.

Sect. 3. After the ſame manner you are to ſet all kind of *Nuts*: but becauſe it's neceſſary that your young *Walnut-trees* and *Cheſnut-trees* ſhould grow longer in your Seed-plot than *Stone-fruit*, before they will be fit to be removed to the place they are to ſpend their lives in, you muſt ſet them at much further diſtance, that they may have more room to grow big without hurting one another.

Of Seeds or Kernels.

Sect. 4. To raiſe *Stocks* from *Seeds* or *Kernels* of *Apples*, *Crabs*, or *Pears* (each of which ſorts are to be ſowed by themſelves) you muſt thus go to work.

Of providing them.

When either you, or any Neighbour hath made *Syder*, *Verjuice*, or *Perry*, take the *Muſt* (or as ſome call it the *Pouz*) which is the ſubſtance of the *Fruit* after the *juice* is preſſed out, the ſame day or the next day after, before it heats, and with a *riddle* ſift out the Seeds on a clean floor or cloth, and theſe you muſt ſow (as ſoon as you can conveniently) upon beds of very fine Earth, very thick, for

Of ſowing them

ſome

ſome being bruiſed in the grinding, or pounding the *Fruit*, and others, not being ripe, many never come up; then ſift *mold* upon them about *two* fingers breadth in thickneſs: this way is much better than to ſow the ſeeds with the *Muſt* or *Pouz* together, (as ſome do) becauſe the *Muſt* will heat them, and many of the Seeds will *putrefie*, and others will not be able to *root*, or *ſhoot up*, becauſe they are ſo impriſoned in that dry and tough ſtuff clinging about them.

The *Beds* of Earth you ſow them on may be made about *two foot* in breadth, with a good diſtance between the beds that you may the better come at to *weed* them, and draw them up as you have occaſion.

Sect. 5. To keep *Fowls* or *Birds* from ſcraping them up, lay ſome *white-thorn* on the beds till the Ground be well ſetled. Of ſecuring them from prejudice.

Some cover the beds with *Fern* or *Straw* to keep them warm in the Winter, which may not do amiſs; but then it ought to be take off when the Spring approacheth.

If *Moles* or *Mice* get in, (which you will diſcover eaſily, (the Mice leaving ſhells of the Seeds on the top of the

beds) they must be destroyed. For *Mice* therefore lay Poyson, or Oatmeal mixt with pounded Glass, and Butter, and cast bits of it upon the beds: or set traps for the *Mice* and *Moles*, better known than described.

Ordering the Seed beds.

Sect. 6. The next spring you will see these Stones and Seeds come up plentifully; first the dissimilar leaves, almost of the shape of the Kernel split in two, and from betwixt them will the stem put forth; keep them clean from weeds all the year, which must be plucked up while they are young, lest if they get root, in drawing them up you root up the seedlings with them.

Weeds.

These weeds and such as are pluckt up any where else, thrown up into a heap will rot, and become very good Manure, but this should be before they are seeded, for then the Manure made of them will be apt to make the ground it is cast upon more subject to weeds.

Watering.

If a *dry time* happen, you may sometimes in the Summer water the beds.

The proper Seeds for Stocks.

Sect. 7. To furnish your self with a competent variety of Stocks for the several sorts of Fruit-trees, your *Seminary* is to be stored with these following; such as come of *Peach-stones*, *Plum-stones*, *Cherry-*

Cherry-ſtones, *Apple-kernels*, *Crab-kernels*, and *Pear-kernels*; and from *Nuts* you raiſe your *Nut-trees*.

What kind of Fruit.

Peach-ſtones are to yield you Stocks for *Peaches* and *Nectarines*; *Plum-ſtones*, *Stocks* for *Peaches Nectarines*; *Apricocks*, and *Plums*; *Cherry-ſtones*, *Stocks* for *Cherries*; *Seeds* of *Apples* and *Crabs* produce *Stocks* for *Apple-trees*; and laſtly the *Seeds* of *Pears* yield *Stocks* for *Pear-trees*.

Other ways to raiſe Stocks.

Sect. 8. There are likewiſe ſome other ways to be furniſhed with Stocks, and which you ſhall find hereafter are in ſome caſes to be made uſe of, that is, for *Pears*, *Plums*, and *Cherries* by Suckers ſpringing out of the roots of Trees of the ſame kind, and for ſeveral ſorts of Apples and Pears by Cuttings of Apple-trees and Quince-trees: which I here intimate, becauſe Stocks thus raiſed are ſometimes brought up in Nurſeries; but the full directions about them are given in the Chapter of *Dwarf-trees*.

Suckers.

Cuttings.

Primings of Roots.

Mr. *Evelyn* ſaith, the end of roots that are cut off from young trees, taken up to be Traſplanted, and ſet in beds of good Earth, will ſhoot forth tops, and become good *Stocks*. Such may ſerve for Dwarf-trees, or for Walls.

And

Inoculating in Roots.

And I have heard an Ingenious perſon ſpeak of *inoculating Buds* on the ſmall *roots* of great *trees* that grow at fartheſt diſtance from the Bodies, and after a years growth to cut off the *root*, about a foot in length, with the new *ſhoot* growing upon it, and tranſplant it; becauſe a Tree will be ſooner raiſed thus than from a *Seed* or *Stone*.

In caſe of an exigent for a *Stock* or two, this way may be practiſed, but it would be found too troubleſome for general uſe.

Sect. 9. But if you deſire to raiſe ſome *Wall-fruit-trees* ſpeedily, for furniſhing ſome vacancies in the Wall, and would be ſo ſure of the kind of *Fruit*, that you will not truſt to a Nurſery Mans ſelling, you may ſet ſome *Peach-ſtones* in ſome old basket fill'd with Earth 4 or 5 in a basket, and where ſeveral come up (when very young) draw up all but one that is likely to grow beſt: Some of theſe you may poſſibly *Inoculate* the ſame year, or at fartheſt the year after all of them: when you ſee the *bud* taken, in the Winter following cut off the head, and ſet the basket with the Tree in it, in the vacant places, by opening the ground and letting in the basket, and

ſet-

ſetting in Earth about it; The basket will rot, and roots get through it, ſo that it will be no hindrance to the *Tree*'s growth, and the chief advantage is that the *Tree* hath not the lett and hindrance as others have by removing, never being taken out of the Earth it was ſet in. Leſt any caſualty hit off the Bud in removing, or againſt the Wall, you may if you pleaſe not ſet the basket till the year after the *Bud* that was *inoculated* is ſhot forth.

Or to haſten the furniſhing the Wall (if you have none ready grown in a Nurſery nor are willing to buy, and that no impediment hinder) you may ſet *Stones* by the Wall ſide in the Borders, and there inoculate them, and after let ſtand what you pleaſe, and remove the reſt; In both thoſe you will find directions of inoculating and more fully ordering them in the 4th and fifth Chapters.

CHAP.

CHAP. II.

Obſervations concerning the raiſing of Stocks in the Seminary, or elſewhere.

Seeds produce not their own Fruit.

SECT. 1. *Seeds* or *Stones* of *Fruits* gathered from *Trees* that have been *graffed* or *inoculated* on *Stocks* of different kinds from the Scions, produce of themſelves, (not being *graffed* or *inoculated*) not the ſame *Fruit* as that was from whence the *Seed* or *Stone* came, but a different, and moſt commonly a worſe.

The *Stones* of *Peaches* produce *Trees* that will bear *Peaches*, ſometimes better than the Peaches out of which the Stones were taken, although thoſe Peaches grew upon a Tree that was *inoculated* on a *Plum:* And therefore ſome Gardiners by ſetting many Stones of the *Nerrington Peach*, have found ſome among the Trees come up from them, to bear a *fruit* rather improved than worſe; and by giving it a new Name, and *inoculating* from it, have made good gain of it. But this is not a practice for every private

vate perſon; becauſe *Peach-trees* ſo raiſed, will be longer before they bear fruit, than thoſe which are *inoculated*; and becauſe he muſt run the hazard of filling great part of his *wall* with theſe *Peach-trees* thus raiſed from *Stones*, and not one it may be in many prove any thing extraordinary, and the reſt of no uſe unleſs for Stocks, after he hath waited ſeveral years to ſee what Fruit they will bear.

Sect. 2. It is controverted amongſt men of this *Profeſſion*, whether *Stocks* from *Peach-ſtones* are beſt to *inoculate Peaches* upon: both ſides have their peculiar advantages, which I ſhall here ſet down, and leave every man to his choice. Of Stocks for Peaches.

Stocks from *Peach ſtones* will be ſooner ready to *inoculate*, and the buds will take very ſure, that are *inoculated* into them; but they muſt be carefully and tenderly uſed in the removal, and muſt not be expected to make long laſting Trees. Peach ſtones.

Stocks from *Plum-ſtones* and *budded* with a *Peach* will make a more firm and laſting *Peach tree*; and ſuch as will bear Fruit well. Plum-ſtones.

There-

Wheat Plum-ſtones. Therefore rather raiſe *Stocks* for *Peaches*, *Nectarines*, *Apricocks*, and *Plums* from *Stones* of the *Wheat plum*, which is a *White-plum* ripe in *Auguſt* (if you can have them,) or in want of them from

White-pear-plum-ſtones. the *Stones* of the *White-pear-plum*, which is generally commended and uſed, or of other good *White-plum*, whoſe Tree puts forth large *ſhoots* or *branches*. If you are not ſufficiently furniſhed with *Stones* of theſe *White-plums*, you may for *Apricocks*

Other Plum-ſtones. and *Plums* raiſe *Stocks* from the *Stones* of the *Muſcle-plum*, the *Black-pear-plum*, *Primordian*, or any other *Black* or *Red-plum* of free growth.

Apricock-tree And it's a way much commended, firſt to *inoculate* an *Apricock* very low on ſuch *Plum ſtocks*, and then after a years growth, *inoculate* a *Peach* or a *Nectarine* on it; only this way there will be two years loſs of time, and take notice that the *Red-Roman Nectarine* will hardly take on a *Plum-ſtock* any other way.

Suckers. The Suckers likewiſe from the *roots* of the *White-plum* before mentioned make *Stocks* for the *Fruit* ſpoken of in this *Section*.

Cherry Stocks *Sect.* 3. Stocks for *Cherry-trees* are raiſed from *Cherry-ſtones*, ſet or ſowed, or young wild *Cherry trees* got out of *Woods*,

Woods, &c. or *Suckers* from the common harſh *red Cherry*. The wild *Stocks* make large handſome *Standard-trees*, but though *graffed* with a good kind, do not bear *Fruit* ſo plentifully in many Countries, as the Suckers of the *red* being *graffed* do, which laſt alſo are fitteſt to *graff Cherries* on for *Wall* or *Dwarf-trees* being of much ſmaller growth than thoſe of the wild kind are.

Sect. 4. It's plain all Stocks and Scions (that will proſper when they are joyned together) are *congenerous*, and related in ſome degree of affinity; I have tryed a *Nectarine* on a *Horſe-Plum* and it failed; on the very ſame Stock an *Apricock* grew very faſt. I have alſo *inoculated* a *Apricock* on a courſe *Black-plum* (known in ſome Countries by the name of the *Lammas-plum*) and it took well, and bore a good Fruit. I have *inoculated Pears* upon a *Hawthorn* or *White-thorn*, and it hath taken very well, but the growth was ſo ſmall, it's not worth the practice. A *Pear graffed* on a *Wicky-berry-tree* grew very well, but on the *Hazel* or *Nut-tree* it fail'd. I have tryed the *inoculating buds* of *Walnut-trees* upon *Aſh-trees* to haſten the raiſing Trees, but not one of many (that I tryed) came to any thing.

Scion and Stock muſt agree.

M.r.

Mr. *Evelyn* reports it from one, that ſaid, he had it to ſhew, that a *white Apple graffed* upon an *Elm* did grow and bear a *read Apple.*

Cherries graffed on *Plum-trees* will not proſper long, nor *Plums* on *Cherries*; neither do *Apples* on *Pears*, nor *Pears* upon *Apples.*

Stocks may meliorate the Fruit.

Sect. 5. It is an Aſſertion of my Lord *Bacon* in his *Natural Hiſtory, cent.* 5. *Exper.* 452. *That Graffing doth meliorate Fruit*; and I have heard that the *Golden-renating* was the *Fruit* of a Scion of an *Apple-tree graffed* by his direction on an Apple-tree, and thence had its name as being in a manner *born again.*

But mere *Graffing* doth not better the *Fruit* at all, as if you *graff* a *Scion* upon the ſame Tree you took it from, the *Fruit* will be the ſame, without any the leaſt alteration from what the Tree bore before it was ſo graffed.

But it is a harder queſtion to reſolve, if you graff a Scion on a Stock differing from it in kind, whether the Fruit of this *new Tree* will be any thing better than the Fruit of the Tree from whence the Scion was taken.

This

This is by many held in the *negative*; becauſe (ſay they) the *Stock* only conveys food and nouriſhment to the Scion, and then when the Scion hath received it, it converts it perfectly into its own Nature; ſo that the Fruit which this Scion ſhall bear, muſt be the very ſame that the Tree bore from which the Scion was taken, and neither better nor worſe. But that the Scion doth thus perfectly tranſmute the *juice* it receives from the *Stock* into its own kind is not proved, neither (as I verily believe) ever will; and it may therefore prove for all that's ſaid to the contrary, that the *Fruit* may participate ſomething of the Nature of the *Stock*, and may ſo far be made by it either better or worſe; for ſuch an union as that of the *Stock* and the Graff in natural bodies is haruly conceivable without ſome commixture of their Natures, and there are ſome reaſons from Experience that make this probable; as,

1. The Seeds of a graffed Tree take much after the *Stock*, and it is hard to conceive the *Kernel* ſhould participate ſo much of the *Stock*, and the *Fruit* be nothing influenced by it.

2. Thoſe that produce the beſt Fruit by their *Stones* or *Seeds*, yet vary from the Fruit the *ſeed* or *ſtone* was taken out of which in all likelyhood proceeds from the mixture of the *quality* of the *ſtock* and *Scion* in that *Tree* the *ſtone* came from.

3. It's manifeſt that amongſt *Trees* of one kind, in the ſame *Orchard*, you ſhall have ſome one of them bear better Fruit than any of the reſt ſometimes; and I know not what to impute this excellency to more probably chiefly though there may be ſome other cauſes for it, than that the *ſtocks* they were graffed on might be *Crab-trees* that bore *Crabs* of ſeveral kinds, ſome better, ſome worſe.

So that to conclude this diſcourſe, it cannot be amiſs to be ſo far curious about the *ſtocks* you *graff*, as rather to chooſe ſuch *ſeeds* and *ſtones* to raiſe them from as come from *Trees* that bear the beſt *fruit* in their kind (if you can have them) than to take them at adventure.

Crab Kernels beſt.

Sect. 6. In raiſing *Apple-trees* for *Orchards* or *fields*, whether for *Cyder* or *baking*, *&c.* the *Crab-kernels* are preferr'd before *Apple-kernels*, as yielding *ſtocks* more hardy, and ſo better able to endure

dure cold and courſe Land, and becauſe they root better and ſo will make larger *Trees*: Neither are ſome ſorts of *Crabs* ſo contemptible a *fruit* as they are generally accounted; for being gathered very ripe and kept a good while to *mellow*, ſome of them will make good *Cyder*; and generally they yield a ſtrong Liquor: ſo that ſuch kind of *Crab-ſtocks* may rather help to mend ſome Apples of weak *juice* than make them worſe, but the reaſon before mentioned is the cauſe of their choice before Apple Kernels.

Yet where you cannot conveniently be ſtored with *Crab-kernels*; *Apple-kernels* are not ſo much inferior to them, but they may well enough be made uſe of, (as they commonly are) for raiſing *ſtocks* to graff Apples upon. Apple kernels.

And concerning the *ſeeds* of *Apples* it's to be obſerved, that although they produce not *Trees* bearing the ſame kind of Apples as thoſe the ſeeds were had out of; yet without graffing they will bring forth a good *harſh fruit* that may yield good *Cyder*: and thus (it's ſaid) we came by ſome of our beſt *Cyder-Apples*.

Seeds of various Apples.

If you ſow the *ſeeds* of ſeveral ſorts of *Apples* mixt together, you would certainly have fruit multiply'd into various kinds; but yet perhaps find none better for *Cyder* than thoſe already known, nor ſo good, and ſuch *Trees* will be longer before they come to bear *fruit* than others that are graffed: ſo that it would be but an unpleaſant Experiment to ſearch this way for a *Cyder Apple* to exceed all that have been before, becauſe the trial would be ſo tedious, and the labour in greateſt likelyhood loſt at laſt.

A Fruit-Hedg.

But if a man had a mind to raiſe a good *new Fence* about a *Field* he deſigns to incloſe, which he can keep for four or five years together to bear *Corn* or *Clover-graſs* to mow, that *Cattle* may be ſo long kept out of it, he might do it rarely well by ſowing Apple kernels of as many ſorts as he will, on the top of a new made *Ditch bank*, making the *dead Hedge* (that is uſually on the top of the bank) on the out ſide of the ditch to defend them.

When they are grown up he may plaſh this Hedg, leaving at every four or five yards diſtance, one of the beſt Trees to grow up, which of themſelves will bear good *Cyder fruit*, or may be graffed to bear what pleaſeth the owner; and by this means

means in a little time and with ſmall charge he ſhall have a *fruit-bearing* and *impregnable Hedge.*

Sect. 7. It's held by ſome, that the *Kernel* of the *fruit* hath a great dependence upon and ſympathy with the *pith* of the Tree, and that *hollow-trees* though they grow and bear fruit, yet that fruit hath few Kernels in it, and thoſe little better than withered *husks.* Of the Pith and Kernels.

When I was a young *Planter*, I was once in want of *Pear-ſtocks*; and made my complaint to an ancient *practiſer*, a man of very good judgment in the opinion of thoſe that knew him, and he told me he had oft ſowed *kernels* of *Pears* and never could get any to grow: Yet I procured ſome Seeds of *Pears* from the *Mill*, that were very *ripe*, and had *ſtocks* enough from them, which makes me believe my friend took his kernels from a *Tree* that was *hollow-hearted*, as *Pear-trees* are more ſubject to be than any other *fruit-trees.*

I mention this the rather, becauſe if a *Planter* try any thing but once, and fail, he ſhould not be *diſcouraged*, and particularly in this; but if he can get ripe Seeds, (which will be then very black) and of a *ſound Tree*, he need not doubt the ſucceſs.

And to have plenty of *ſtocks* ſuch as are beſt for large *ſtandards* for *Orchards*, or *Fields*, there is no better way of raiſing them than by Kernels; with which a man can no way be plentifully and eaſily provided, but at the time and place of making *Perry*, though he do ſend ſome miles for them.

Hollow fruit-trees.

I ſhall end this *Chapter* with this one *Obſervation* more, not unſuitable to what went before, and which I have met with verifi'd more than once or twice in my own Experience, That there are ſome *hollow fruit-trees* that bear fruit ſo much more excellent than any of the ſame kind the owners have had, or could elſewhere meet with, that they have been very deſirous to propagate from them, but never could any manner of way raiſe young ones of thoſe old *Trees*, that would bear ſo good a *fruit*; which ſeems to infer that the *fruit* of a *Tree* may be the *better* for the *piths* being *conſum'd*; and if that be true, it muſt be ſo, becauſe the *pith* conveys to the *fruit* a *worſe* ſort of *juice* than any other part of the Tree doth, and therefore being freed from that infection by the *Conſumption* of the *Pith*, the Fruit becomes more *choice* and *delicate*. And that the *Pith*

is

is the conveyance of a *courſer*, or other ſort of juice, is rendred in ſome ſort probable, becauſe (as hath been before obſerved) the *Kernels* of *Fruit* depend much upon the *Pith*, which almoſt never produce ſuch *good fruit* as they come out of, and generally much worſe.

CHAP. III.

Of Tranſplanting the Seedlings.

Of removing Seedlings.

SECT. 1. In *October* after one Summers growth in the *Seed-plots*, you ought to draw up with your hand, ſuch of your *Crab*, *Apple*, or *Pear-ſeedlings* as you find grown above a foot in height: and tranſplant them into your *Nurſery*, and let the reſt remain in the *Seed-plot* till another year; as for thoſe from *Stones* they need not be *removed*, but inoculated in the *Seminary*, the *ſtones* being ſet at the diſtance aforeſaid.

Of dreſſing them.

When they are drawn up, cut off the *ſide-ſpriggs* from about the *top*, and the *ſtrings* from about the roots, and ſnip off the *extremities*, both of the *top*, that it may not run too faſt upward, (but

the body may grow in bigneſs,) and of the *tap* or *heart root*, that it may not run directly *downward* (leſt it run further than the good *ſoil*) but may be more apt to ſpread its *Roots* in breadth.

Of the ſoil. Have *beds* ready prepared, of good *fertile dry Earth*, not over *rich*, leſt upon removal afterwards into a much worſe *Soil* (as for the moſt part *Orchard* and *Field* ground is) your Trees coming of a ſudden from ſuch delicate food, to ſuch courſe fare, pine away if they do not periſh; and this is but reaſonably thought to be the cauſe why many Trees bought out of *London* Nurſeries (which are vaſtly deep with *fat*, and *rich manure*) decay, or come on very poorly, when they are brought into the Country. Therefore upon every removal endeavour to have Earth as good, or better (to place next the *roots*) than that out of which they were taken.

Of ſetting them. *Sect.* 2. Let every *bed* you make, for ſetting theſe *Plants* in, be about *two foot broad*, leaving *room* betwixt each *bed* to walk and work about them, without prejudicing the *Plants*: Set *two rows* a *foot* or more diſtance each from other on every *bed*, by drawing a *line*, and pricking *holes* a full *foot* aſunder; let the

holes

holes be ſo deep, that if the *roots* be not very long, you may ſet your Plants at leaſt two fingers breadth deeper in the ground than they grew in the *Seed-plot*, *cloſe* the *mold* about them, and if it be a very *dry* time, *water* them the ſame day, the better to ſettle the Earth about them.

If you can get old *Fearn* (in ſome places called alſo *Brakes*) or for want of it *Straw*, or *new Dung*, cover the *Beds* with it, which will keep the *roots* warm in the *Winter*, and preſerve them from overmuch heat in the *Summer*; if the land be any whit *ſtiff*, this cover will make it *mellow*, and when *rotten* enrich it, and very much hinder the growth of *weeds*, which ought duly to be pluck'd up; and put new *Fearn*, *&c.* as the old rots.

Sect. 3. If any of theſe *Plants* (in the years following) ſhoot forth *upright*, top them early in the year, it will make them grow bigger bodied, and ſo become ſooner ready for *graffing*. Of dreſſing them.

If you intend to raiſe any *ſtocks*, to be ſet out in *Fields* before they are *graffed*, you need not *top* them upon their firſt *removal*, neither need you *remove* them, till they are grown *high* enough For Fields.

to

to ſtand in the *Fields*; if you find that they *ſpread* their *roots*, and run not *downward*, as in *gravelly* and ſuch kind of *ſoils* they will not be apt to do; (and by the firſt you *draw up* you may judge of the *reſt*, whether they do or no:) If you *reſerve* any for this uſe, you had beſt *chooſe* ſuch as grew *ſtraight*, and at convenient *diſtance* one from another; which you may contrive to do, in *drawing* out the *firſt two* years, ſuch as be of *ſtature* to be *Tranſplanted* from among them: Whether you remove theſe into your *Nurſery* or ſuffer them to remain in the *Seminary* you ought to Dreſs theſe once or twice a year by cutting off the biggeſt ſide-branches to haſten their growing *tall*, but leaving ſome ſmall ſide-branches, for this cauſeth them to thrive in *bigneſs* the more, which they ought to do proportionable to their height, or elſe they will be too *weak* to *bear* a *top*.

Obſerve this alſo in *graffed Trees* in your *Nurſeries* or elſewhere.

CHAP.

CHAP. IV.

Of Inoculating.

SECT. 1. About a fortnight before or after *Midſummer* (which is the beſt time, though it may be done from the beginning of *May* till *Auguſt*) when you have pitch'd upon ſuch *ſtocks* as are fit to be *inoculated*, chooſe out a ſtrong and *well liking branch*, or *ſhoot* of that *years growth* upon a Tree that bears ſuch kind of *fruit* as you would by this operation produce, and about the middle, or lower end of it, (for the top will be too tender) fix upon a *leaf*, that hath a freſh and fair *bud* growing out betwixt it and the bark, and about half an inch below, and above the *bud*, cut off the *branch*, and ſo you will have a piece of it about an inch long remaining, with a *bud* and a *leaf* on; this you muſt *cleave* juſt through the midſt, ſo as the *bud* may be directly in the middle of the one half; and then ſnip off a part of the *leaf*, or the whole leaving the ſtalk: and holding it by the remainder, clap it to a ſmooth place on the ſtock; and with a Pen- Way of inoculating.

Pen-knife ſcore out, on each ſide of it, ſo much of the ſtock as it covers, or rather a little broader (becauſe when the *bark* on which the *bud* is, is taken off from its own *wood* and applyed to the ſtock, it will cover a wider ſpace of the ſtock than it did before;) after you have thus marked your ſtock, with-draw the Scion again, & cut the *bark* through where you had marked it, then cut the *bark croſs* and *ſtraight*, from the uppermoſt end of one *ſcore* to the upper end of the *other*, and cut the *bark* again *croſs* and *ſtraight*, from one *ſcore* to the *other*, but not ſo low as the lower ends of the *ſcores* by a quarter of an inch, then take the oblong ſquare piece of *bark*, that is cut on every ſide quite off the Stock, and raiſe up that part of the bark that remains betwixt the ſide *ſcores*, at the bottom of the work, from the *wood*, till you come to the lower ends of the ſide *ſcores*.

Take then a Gooſe-quill, cut in the faſhion of an *Apple Scoop*, or *Scraper*, and having with your Nail a little looſened the upper part of that *bark* that is on the Scion, thruſt the *quill* betwixt the *bark* and the *wood*, holding it cloſe to the *wood*, that it may ſeparate them, and take off with the *bark* a little *wood* or

root

root of the *bud* over againſt it: If you ſee a *hole* on the inſide over againſt the *bud*, when you have taken the bark off, (which is ſeldom) caſt it away, that little labour is loſt, and try another till you find it otherwiſe.

Then put in the lower end of that *Bark* or *Scion* betwixt the *bark* that was raiſed on the Stock and the Wood, and ſo bind it on the Stock gently with *Woollen-yarn*, or *narrow ſhreds* of *Linen-cloth*, or *gentle Stuff*, or with *Baſſes*, or *Baſt*, of which the *Ruſſia Mats* are made, but ſo that the *Scion* may lie cloſe to the *wood* of the *ſtock* that was made bare, and have a ſpecial care that you hurt not the *bud*.

Sect. 2. There are ſome other ways of *inoculating* uſed, differing only in the manner of the cut both in the *bark* of the Stock, and of the *Scion*. Several other ways.

And firſt, ſome proceeding in all other things as is before directed, cut the Bark out of the whole length of the ſide *ſcores*, and apply the *Scion* to the disbarked place. A 2d. way.

Secondly, Others cut one ſlit only, down the bark of the *Stock*, and another *croſs* the top of it, like a great T: when this is done, they prepare the Third, The Gardiners way.

Scion

Scion or *bark* as before directed, (only cutting it ſharp pointed at the lower end before they take the *bud* off its *wood*) then raiſe the *bark* of the *Stock* up on each ſide the *ſlit*, and put in the Scion, beginning at the top and ſliding it downward gently, and ſo bind the bark gently upon it. *This is the common way uſed among Gardiners.*

A 4th. way. *Thirdly*, You may make the *croſs cut* in the middle of the downright *ſcore* on the Stock, and lifting up the four corners of the *bark*, and making the Scion ſharp at both ends, put it under the bark of the Stock at both ends, and then bind it. But in doing this there is danger of hurting the Scion.

A 5th. way. *Fourthly*, Mr. *Rea* commends the making the *croſs cut* at the lower end of the *down right cut*, and having opened the ſides, put in the Scion upward, being made ſharp at the upper end only.

Thus much to ſatisfie the curioſity of ſuch as have a mind to make tryal of every way; but the firſt that I have deſcribed at large, I take to be the beſt.

CHAP.

A *Denotes the cutting of the Bark for inoculating the first way directed.*

B *The upper part of the bark taken off and the lower part raised.*

C *The Bark prepared to put in the Stock.*

D *The first inoculation finished.*

E *The second way described by taking the Bark off the Stock in an oblong square.*

F *The same finished.*

G *The cutting the Bark of the Stock according to the Gardiners ordinary way.*

H *The sides of the Bark opened to put in the bark or shield.*

I *The Bark of the Scion prepared for that purpose.*

K *This way of inoculation finished.*

L *The cutting of the Bark of the Stock according to Mr.* Rea's *best approbation.*

M *The opening the Bark on each side the slit.*

N *The Bark prepared to be put in.*

O *The same finished.*

P *The cut of the Scion and the Stock for side-graffing.*

Q *The cut of the Scion and the Stock for another way of side-graffing.*

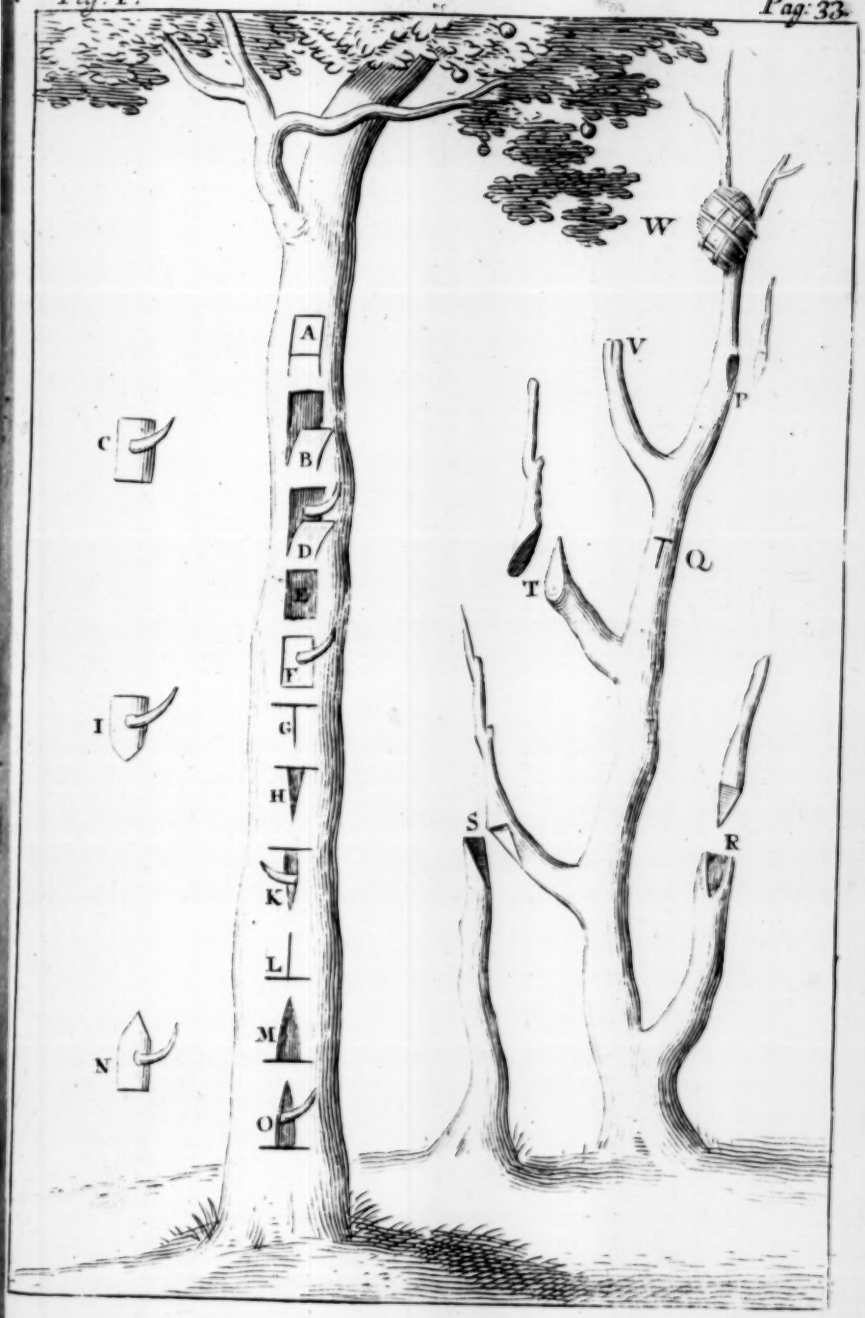
R *The cut of the Scion and Stock for Slicing.*

S *The cut of both for graffing by Approach.*

T *The manner of stock and scion for Whip-graffing*

V *The manner of cutting the Bark of the Stock for graffing in the bark.*

W *The manner of Circumposition.*


W
A
B
C
D
E
F
G
H
I
K
L
M
N
O
V
P
T
Q
S
R

CHAP. V.

Obſervations touching inoculating.

SECT. 1. Leſt one *bud* fail, or any miſchance break it, put *two* in every *Stock*, but not directly *under* one another, on the ſame ſide of the *ſtock*: The *branch* or *ſhoot*, you cut one *Scion* off, may yield you ſeveral. Neceſſary Rules.

About a *month* after the *inoculating*, or ſooner, if you perceive the *bark* ſwell where the binding is, cut off the binding. Unbind.

If it grow it will fix to the *Stock*, keep its colour, and that part of the *leaf* and *ſtalk* that was left will drop off, and the *bud* appear fair; then ſometime before the next ſpring cut off the *top* of the *ſtock* a hands breadth above the place it was *inoculated* at, and all the *ſide-branches*, that grow any where upon the *Stock*; and at Spring the *bud* will put forth, and if any other *ſprouts* or *buds* appear on the *ſtock*, cut them off. If a live. Cut off the top.

If the firſt *inoculation* fail, or the *buds* die, the *ſtocks* may be *inoculated* again next Summer; and of ſuch as are *inocu-* If dead inoculate again.

lated

lated timely in the year, it may be ſometimes ſeen whether they grow or not, time enough to *inoculate* them again the ſame year.

Apricocks will have *buds* ſooner ready than other fruit; ſo that you may begin with them, and follow with other kinds.

Size of the ſtocks.

Sect. 2. *Stocks* raiſed of *Peach-ſtones* are commonly big enough to be *inoculated* the *ſecond* Summer, ſometimes the *firſt* after they are ſet; when they, or any other *Stocks* are an *inch* and half in compaſs, or thereabouts, they are big enough to be *inoculated.*

Height.

Thoſe you intend for *Wall*, or *Dwarf-trees*, are to be *inoculated* within a *handful* of the ground, and not Pruned at all till you remove them, and then you will better ſee what's neceſſary to be cut off: And theſe you may remove after *one* years growth, or *two* with more ſafety.

If you *inoculate* any *Plums*, *Cherries*, *Pears* or other *Fruit*, that you intend for an Orchard, or other place, for tall ſtandards, you may do it higher on the *ſtocks*, and Prune theſe up in the *Nurſery*, and let them grow there three or four years (according as they grow in height) before they be removed.

After

After *Stocks* that are *inoculated* have made *one* or *two* years growth, you muſt cut off the head of the *ſtock*, that remain'd above the *bud* at your firſt cutting it: Cut it cloſe to the new branch, that it may grow over the cut; let it be cut a little ſlope, and *clay'd* over, if you deſire the *branch* ſhould quickly cover it, and the ſooner it doth the better. A ſecond cutting of the ſtock.

Sect. 3. Care muſt be had in chooſing *branches*, or *ſhoots*, from which you are to have your *buds*, that are of ſtrong growth, the Bark firm, and not ſpungy; ſuffer them to fade as little as may be, before you uſe them; and if the fruit you deſign to raiſe, be at ſuch a diſtance that you cannot have *buds* to *inoculate* the ſame day they are cut, put them in wet *Moſs*, or *Graſs* in a Box, and ſo they will keep a day and a night very well. Choice of Buds.

Nectarines, *Peaches*, and *Apricocks*, are ſeldom raiſed otherwiſe than by *inoculation*; I knew an *Apricock graffed* in the *cleft*, as likely as might be to grow, but failed; I have heard of one *graffed* in the *bark* that grew. What Fruits to inoculate.

Cherries and *Pears* take very ſure, being on young freſh ſtocks whoſe bark is not thick.

What not.

The *bark* of *Scions* taken from ſome *Plums*, is ſo tender and ſpungy, they will often miſcarry when *inoculated*; from ſuch one would chooſe rather to raiſe by Graffing; but moſt *Plums* will hit very well being inoculated.

Scions of *Apples* fails for the moſt part, their Bark being tender, and *buds weak*; but to preſerve kind of a dying *Apple-tree*, that I could not well cut a *Scion* to Graff off, I have taken a hungry *bud* of the year foregoing, and it hath taken, and grown very well.

Pears and *Apples* ſucceed very well (and the latter beſt) by taking a *bud* from a ſhoot of the year foregoing to inoculate with. The skill in finding *buds* that are fit for it, which muſt be ſhort and not likely to make *buds* for *bloſſoms* is the only difficulty. There is a conſiderable advantage in it, (*viz.*) Being done in *May* or the beginning of *June*, and part of the head of the *ſtock* cut off, the *Bud* of the ſhoots the ſame year, and becomes ſo ſtrong, that it makes a far better growth the ſucceeding year, than otherwiſe it would have done; neither is ſuch *ſhoot* liable to ſo many hurtful caſualties. as a *bud* is before the enſuing ſpring. And laſtly, if it ſhould miſcarry

ry (as it ſeldom doth) it will be perceived by *Midſummer*, and the *ſtock* may be *enoculated* again the ſame year.

Sect. 4. Where *inoculating* ſucceeds well, it is to be prefer'd before Graffing. Inoculating prefer'd before Graffing.

1. Becauſe the *ſtock* will be big enough to *inoculate* ſooner by two or three *years*, than to graff, and your *Plant* groweth much faſter, after the Nature is ſo altered, than it did before, and will be ſooner ready to *Tranſplant*, and if it be ſuffered to grow *two* or *three* years longer, as it muſt be before it will be fit to be *graffed*.

2. It makes a *ſounder Tree* than one that is *graffed*, eſpecially in the cleft; becauſe it covereth the *Stock* ſpeedily and well.

3. It *hurts* not the *Stock* ſo much as *graffing*; and if it chance to fail, it may be *inoculated* next *year* again, and ſometimes the ſame *year*.

4. It's more *ſpeedy*, *eaſie*, and *delightful* than *Graffing*, and may be practis'd by *Gentlemen*, who in *June* may lie on the ground and do it; whereas they cannot bear the cold without danger of taking hurt, in *February*, or *March*, which is the chief *Graffing* ſeaſon.

Of the time of the day.

Sect. 5. It is debated among *Planters* what *time* of the *day* is best for *Inoculating:* I have heard an Ingenious person argue for the morning; becauſe there paſſeth up much more *ſap*, or *juice*, in the *day* time, than in the *night*; as was obſerved by him in piercing the *Birch tree*, and other *Trees*, to get the *liquor*, that diſtills out of them, for Phyſical uſes;) and conſequently the *bud inoculated* in the morning, muſt be more likely to grow, having the whole days plenty of *ſap* to invite it to unite with the *Stock*, than if it be *inoculated* late in the day, and ſo muſt be diſcouraged in its new habitation, by the niggardly proviſion of the nights Sap. If you follow this advice, you had beſt wrap ſome broad *leaves*, or *Fearn*, about the *ſtock*, ſo as to ſhade the Scion from the ſcorching heat of the day following, to prevent its drying before the *Stock* hath undertaken the charge of preſerving it.

Of the morning.

Noon.

But this work may be done in the middle of the day, if the heat be not *violent*, and then you muſt (as at all times you ought) be very quick in the doing of it.

And

And for all that hath been ſaid before, the afternoon may be as good a time as any; becauſe if the *bud* have leſs *liquor* afforded it in the night, then the coolneſs of that time makes it leſs thirſty; and as its thirſt encreaſeth by the heath of the next day, a more plentiful ſtream will be very ſeaſonable to ſatisfie it. Afternoon.

CHAP. VI.

Of the ſeveral ways of Graffing.

SECT. 1. As there are ſeveral ways (as you have ſeen) of *inoculating*, ſo are there of Graffing, as now I come to let you ſee; and the firſt I ſhall ſpeak of is that which is called *Slicing*, or *Packing*, which I ſhall deſcribe here at large, and ſo it will ſerve in part, as a general direction for all. Slicing, or Packing.

Cut off the *top* of your *Stock* in ſome ſmooth ſtraight place; if you do it with a *Hand-ſaw*, cut it ſmooth afterward with your *Knife*, leaving the top flat and even. Preparing the ſtock.

The Scion.

Then prepare your *Scion* or *Graff*, by cutting it on one ſide, from the *joint*, or *ſeam*, (that is, at every years growth) down ſlope-wiſe in the *old wood*, till it's cut quite off, that the ſlope may be about an inch long, or ſomething more, obſerving its bent, that when the *Scion* is fixed to the *Stock*, it may ſtand almoſt upright; give a cut then croſs through the *bark* at the top of the ſlope, and then cut a thin *chip* of the *ſlope* upward to the *croſs-cut*, that there may be a *ſhoulder* to reſt on the top of the *Stock*, but cut not this *ſhoulder* too deep, little more than through the *bark* will be enough, and this will cauſe a little riſing in the ſloped part, which you muſt cut down, that the whole *ſlope* may be plain and ſmooth, without dints or riſings, and lie even to the ſide of the *Stock*.

Length of the Scion.

Cut then the top of the Scion off, cloſe about a *bud*, about four inches above the *ſhoulder* if it be for a *ſtandard* Tree, two *buds* above the clay being full enough; but for *Dwarf*, or *Wall-trees*, you may let the *Scion* be ſix inches long with ſeveral *buds* that they may ſhoot forth many branches, and ſpread from the very Stock.

The

The *Scion* or *Graff* thus prepared; lay the cut part of the *Scion* on the *Weſt*, or *South-weſt* ſide of the Stock, and ſo meaſure and mark the breadth and length of it, then cut away ſo much of the bark of the ſtock, as the cut part of the Scion may fit, drawing your Knife upward; but as the *ſtock*, is bigger, and the bark thicker than that on the Scion, ſo the *chip* muſt be longer, and broader, or elſe the paſſage for the *ſap* in the *ſtock* and Scion, (which is chiefly betwixt the *bark* and the *wood*) will not meet together (as in the work you will eaſily ſee) which ſhould be aimed at. Fitting the ſtock for it.

Then lay the cut part of the Scion on the cut part of the Stock, and bind it on with courſe *Woollen-yarn*, *Baſſes*, or the inward peeling of the *Witch-tree*; if you bind with ſuch a material as will not be looſe, or rotten by Midſummer, about that time give it a cut croſs-wiſe with a Knife to ſet the Priſoners at liberty. Joyning them.

Have in readineſs good *Clay*, free from Stones, mixt with long Hay, and daub it about the Stock and Scion, a full inch above and below the head of the Stock, work it up round the Scion till it be ſharp at the top, that the rain water may run Claying.

down it; and with a Knife or little *trowel* dipt in water ſmooth over the clay; in doing this be ſure not to diſplace the Scion.

Thus you may Graff *Pears*, *Plums*, *Cherries*, and *Apples*, if it be before the *bark* of the Stock will part from the wood of them, for when it will, the next way following is better.

In the Bark. *Sect.* 2. The ſecond way (called *Graffing in the Bark*) is much like this, and I prefer it from experience much before the fore-mentioned, or any other way, but it can with certainty only be uſed for *Apples*, becauſe all Scions of other Fruit will be grown paſt uſe, before the *bark* of the *ſtocks* will *peel*; which is about the end of *March* or the beginning of *April*: But this will be time enough for *Apples*, if the Stocks be in any thing good liking, which if they be not, they are not fit to be graffed any way.

I have kept Scions of *Pears* till the bark hath riſen, and thus graffed them with ſucceſs. If *February* have been ſo ſharp as to keep the Scions backward, it may do very well, not cutting them till toward the end of *February*, for then they will be well preſerved till *Lady-day* or thereabouts, by which time the bark of *Pear*

Stocks

ſtocks generally will peel from the *Stocks*.

Prepare then your *Stock* and *Scion* exactly as you were directed in *packing*, only inſtead of cutting the *bark* off the *Stock*, ſlit it on the *South-weſt* ſide, from the top, almoſt as long as the *ſloped* part of the *Scion*, and looſen the *bark* at the top of the ſlit with the point of your Knife. The manner.

Have in readineſs a little Inſtrument made of *Ivory*, or a *Deer* or *Sheep-ſhank*, or *Silver*, or hard ſmooth Wood, at one end let it be made of the ſhape of the ſlope part of the Scion, but much leſs every way; thruſt it down betwixt the Bark and the Wood of the *Stock*, where it was ſlit, to make room for the Scion, take it out and put in the Scion, but firſt cut a little of the *Bark* at the thin end of the ſlope of the *Scion*, that it double not in going down, yet leave it with a ſharp edge; and becauſe when you Scion is put in, it will bear the *bark* hollow from the Stock, nick or ſlit the *Bark*, on each ſide the Scion, ſo that it may fall cloſe to the Stock, and to the edges of the Scion. *Bind* and *Clay* it as you have already heard. The Inſtrument in the Figure.

Theſe

These two are the best ways of *Grafting* for these Reasons.

1. Because *Stocks* may be *Graffed* thus, some years before they can be ready to *graff* in the *cleft*; and though *Whip-graffing* may be used sooner than either of those, yet their are other great inconveniencies attending it, as you will see hereafter.

2. The Stocks are this way less harmed than where a cleft is used, because the cleft lets wet into them, and makes them not so fit for Graffing again (if any fail to grow the first time) as these continue to be, though they should once miscarry, or come to any mischance.

3. The Scion will much sooner and better cover the Stock, and so make a more *healthful*, *sound*, and *swifter growing Tree*.

4. This is much more speedy, easie, and sure to succeed.

Whip-Grafting.

Sect. 3. There is another way, called *Whip-graffing*, and here your Stock and Scion ought to be exactly of the same bigness, as the manner of performing it plainly sheweth, which is as followeth.

Slope off the Scion a full inch or longer, and do the like to the Stock, and tye the one upon the other.

You

You may if you will, a make ſhoulder on the Scion, and cut the top of the Stock to ſuit with it, and then bind them together, and *clay* about the place.

This way is ſucceſsful enough, ſo that ſpecial care be taken, that both *Stock* and *Scion* ſuit exactly where they are joyned together, which is ſomewhat troubleſome to do, and ſo it is to find Scions and Stocks of an equal bigneſs; both which makes it require longer time in doing than the former ways, beſides the head will be apt to overgrow the Stocks; all that can be done to prevent it, is to Graff theſe very low, or if high, to give the Stock more liberty to thicken, by ſlitting the Bark of it with a Knife. Its inconvenience.

In this way of *Graffing* there is another little knack may be added to very good purpoſe; and that is, when the Stock and *Scion* are prepared (as you heard before) to be joyned together, to make a ſlit with a Knife in the bare place of the Stock downward, beginning towards the top of the *ſlope*, and ſo ſlitting it a little way, and doing the like in the *ſloped* face of the Scion, but beginning at the ſame diſtance from the lower end of it, as you did before from the top of the An addition by lipping or tonguing. ×

the *Stock*, and ſo carrying it upwards, and then joyn them by thruſting the one *ſlice* into the other, till the bare place of the *Scion* cover the bare place of the *Stock*.

The ſame in packing.

This may be done likewiſe in *Graffing* by *packing*, and in both conduceth much to ſtrengthen the work, and is called by ſome, *Lipping* or *Tonguing*.

Side Graffing.

Sect. 4. I am now going to diſcribe another way that I never read of, neither ever knew more than one that uſed it, and he a skilful Gardiner and us'd it very much: Knowing no name for it I have given it the name of *Side-graffing*.

It's done by preparing the *Scion* as in *Whip-graffing*; then without cutting off the head of the *Stock*, (but making it thin of ſide Branches) from a ſmooth place of it on the *Weſt-ſide*, take off as much *bark* as the *Scion* will cover (as in *Packing*) and ſlit both *Scion* and *Stock*, according to the directions given of Lipping or Tonguing in the end of the laſt *Section*, and fix them together accordingly: Bind it cloſe and *clay* it.

If it grow, at a years end cut off the top of the *Stock* at the *graffed* place ſlopewiſe, and *clay* it.

Some

Some done thus grow well, and I have uſed it ſucceſsfully, the tranſient ſap uniting it well to the *Stock*, and it groweth faſt if the head of the *Stock* be not too big to rob it of the ſap and drop upon it, therefore ſuffer not the top of the *ſtock* much to over grow the *Scion* the firſt year before it's cut quite off.

There is another way of this kind, I have known uſed, and is eaſier done than the former, that is, to ſlit the *bark* of the *Stock* in the form of a great T, and looſening it with the point of a Knife, and then clapping in a *Scion*, prepared as hath been ſaid before, (but without the ſlit for *Lipping*,) *bind* and *clay* it. A 2d. way.

This can be uſed only when the bark will part from the *Stock*.

Sect. 5. The next way is that which is called *Graffing* in the *Cleft*, and is very ancient, and ſtill uſed by *common-Planters*, and it's thus performed. In the Cleft.

Cut off the head of the *Stock* even and ſmooth, cleave it with a ſtrong *Knife*, or *Chiſſel*, (hereafter deſcribed when I ſpeak of *Pruning* big Trees) let the ſlit run near two inches deep, let it be as near the middle of the *ſtock* as you can, but not in the *pith* or *heart*; have in readineſs a ſtick of hard Wood, near a foot long, Preparing the Stock.

long, at one end made like a *wedge*; when you have taken out the *Cleaver*, put the *wedg* into the *slit*, and open it so wide as to put in the *Scion*, when it's prepared.

The Scion. Which is by cutting it down *slope* on each side, about an inch in length, beginning at the joynt, but leaving it much thinner on that side that goeth into the *Stock* than the other that is outward, (that side must be outward that will cause it to lean rather *outward* than *inward*;) you may let it have a shoulder on one side, or both, or neither, all these ways are used; but shouldering takes up more time, and makes the *Scion weaker*, and so apter by any chance to be broke off. Then with your Knife cut away any *jags*, or *roughness*, or *blackness* that remains after cleaving on each side of the *cleft* within, and so put in either *one* or *two Scions* (according as your *stock* is in bigness,) place them so as the passage of the *sap* betwixt the *bark* and *wood*, both of the *Stock* and *Scion*, may meet all along the *cleft*, as near as you can; draw then forth your *wedge*, and if the stock be a big strong stock, and do pinch the *Graffs*, drive a little wedge of dry wood into the *slit*, but not so as to let the *Scions* loose

Joyning them.

or for ſuch ſtrong ſtocks cut the *Graffs* as thick on that ſide that goes into the ſtock, as on the outſide, which will prevent the ſtocks hurting the ſappy part and *bark* of the Scion.

Many cleave big ſtocks croſs-wiſe again, and put in two more *Scions* but cleaving hurts the ſtock ſo much that you had better (if you will have more than two *Scions* in one ſtock) *Graff* the other two in the bark, according to the *ſecond* way of *Graffing*, forecaſting one of them to be on the *Weſt-ſide* of the *ſtock*.

Sect. 6. There is another way, called *Graſſing* by *Approach*, *Ablactation*, or *Enarching*, which is by having a *ſtock*, or *ſtocks* grow ſo near another Tree, whoſe *Fruit* you would propagate, that the *ſtock* and the *branch* of that Tree may be joyned together in the manner following; or elſe *ſtocks* raiſed in *Pots*, that may be placed near the Tree of whoſe kind you would propagate; as is commonly uſed for *Orange-Trees*. By approach.

Cut the ſide of the *Branch* and of the *ſtock* (where they will meet) about three inches in length, till you come near the *pith* of each, and fit them both together, that the paſſages of the ſap may joyn, in which poſture *bind* and *clay* them: Aſ- The manner.

ſoon

ſoon as you find the *Scion* and *Stock* to be well cemented together, cut off the head of the *Stock*, about four inches above the binding; and in *March* following, cut off the ſtub you left of the *Stock*, and alſo the *Scion* underneath, cloſe to the Graffed place, that it may ſubſiſt by the Stock only.

A difference. It's alſo uſed to be done by cutting off the head of the *Stock* at firſt, and ſloping half off about two inches long, and joyning the *Scion* thereunto, being cut accordingly. *See the Figure.*

This manner of *Graffing* is unneceſſary, and ſcarcely practicable in the *Fruit-Trees*, chiefly intended in this Book; but for *Oranges*, *Limons*, *Pomgranates*, *Vines*, *Jeſſamins*, and ſuch like *ſhrubs* it may be practis'd.

Alſo it's ſaid that Trees of different kinds will ſooner take this way than otherwiſe.

Among all theſe ſorts of *Graffing*, the ſecond way for *Apples*, and the firſt for all other *Fruit-trees*, are to be preferred before all the reſt.

The Figures with theſe directions, I hope will make all eaſie to any mans underſtanding.

CHAP.

CHAP. VI.

Observations concerning Graffing.

SECT. 1. If the *Plants* that you removed out of your *Seed-plot* into the *Nursery*, and such *Stocks* for *Stone-fruit* in the *Seed-plot* as you intend to *Graff*, be half an inch over in thickneſs, where they are to be *Graffed*, or little more, it's enough: It's beſt not to have them above an inch in the diameter, both that you may loſe no time, and that the *Stock* may be eaſier covered by the *Scion*. Size of ſtocks.

Sect. 2. In providing *Scions* or *Graffs* of *Pears*, *Plums* and *Cherries* you muſt obſerve to cut them in *January*, or the very beginning of *February*, having reſpect to the forwardneſs or backwardneſs of the Spring, and the warmth or coldneſs of the Country you live in; but you muſt be ſure to cut them before the buds have any ſpeck of white appear upon them. Time of cutting Scions.

Scions for *Apple-trees* will ſeldom be too forward any time before the beginning of *March*.

Chooſe ſtrong and well grown *Scions*, that grow at the top or outſide of a *Tree* that bears well, and good fruit of its Choice.

kind, and cut not off the tops of the *Scions* till you *Graff* them, for ſo they will keep the better.

Young ſhoots. I have always found a *ſhoot* or *branch* of the year next foregoing to thrive beſt; and though in *Graffing* old Trees in *Hereford-ſhire*, ſome commend and uſe *Scions* of *two* or *three* years growth, yet thoſe are ſeldom found to have convenient *buds* to put forth at, and often times have *bloſſoming* buds on them, and make not ſo good a growth, neither have they ſo good a *joynt* to *Graff* at, as thoſe of the laſt year.

Old wood. When you get them, you had beſt cut off at leaſt a hands breadth of that which grew the year before with them, beſides the laſt years *ſhoot*; for ſo they will keep the better, and you muſt uſe about an inch of that old wood in every *Scion* when you *Graff* it.

Time for Graffing. *Sect.* 3. In *January* or *February*, as you find the weather grow warm, the wind not being *North*, or *North-Eaſt*, you may Graff *Plums*, *Cherries*, and *Pears*, but not *Apples* till the *bark* of the *Stocks* will *riſe* or *peel* from the wood, which is ſeldom before the middle of *March*, and often not till *April*, becauſe this is neceſſary for the beſt way of

of *Grafſing* them; but if you will *Graff* any *Apples* in the *cleft*, you may do it a little ſooner.

Perhaps you may not have ſeveral ſorts of *Plums*, *Cherries* or *Pears*, ſo near you as that you may get *buds* freſh enough for *Inoculation*. In this caſe you may procure *Scions* and *Graff* them, and they will continue freſh though you ſhould ſend for them from beyond Sea.

Sect. 4. Theſe *Scions* may be kept three *weeks*, or a *month* after they are cut, before they are uſed, and there ought to be a *fortnight* or *three weeks* betwixt the time of their being *cut*, and of their being *Grafted*, that the *Stocks* in that time may be more repleniſht with *ſap*, and the *Scions* be more empty of it. Cutting and ordering Scions.

To keep your *Scions* or *Graffs* after they are cut, you need not, as ſome direct, bury them in *moiſt mold*, for this may be a means to make them ſwell and bud forth, by receiving moiſture from the *Earth*; and then when by *Grafſing* they are expoſed to the cold open *Air*, they will be in danger to wither and die before they have nouriſhment from the *Stock*. Keeping.

You may lay them in a dry houſe, ſo it be near no heat, or under an old Tree, or Hedge, and cover them all over with *dry mold*, that the *Air* may not have too much influence upon them: though they ſeem ſomewhat dry, yet if they cut with a freſh colour, and be not much withered, they will not grow the worſe, but rather the better; yea ſome that have ſeemed withered, being carried in a Cloak-bag *ſeventy* or *eighty* miles have grown well.

Suffer not the *buds* to be hurt, or rub'd in the *binding* or *carriage*.

Of joints. *Sect.* 5. There be ſome indifferent whether they *Graff* at a *joynt* or no, but forecaſt to have a *bud* directly behind the *ſhoulder* of the *Scion*: If *Scions* with *joynts* were ſcarce, you might practiſe ſo on ſmall *Stocks* that will be ſpeedily cover'd, but if *Scions* can be had with *joints*, never *Graff* with others, for theſe will cover the *Stocks* ſooner.

It will do well in *Graffing Stocks* for large *Standards*, to put but one *Scion* into a Stock, and if it put forth ſeveral *ſhoots*, to cut off all but one, that is the ſtraighteſt and ſtrongeſt: But for *Dwarfs* and *Wall-fruit* put in *two Scions*, if the *Stock* be big enough. Let the latter be

Graf-

Graffed near the ground, the former at ſuch height as the *Stock* will allow.

Sect.6. In *Graffing* or *Inoculating*, it may be neceſſary to have ſome *mark*, to know what kind of *Fruit* is put upon each Stock; if you Graff many of one kind, (as it's neceſſary for *Syder-Fruit*) you may obſerve to make every *row* to conſiſt but of one kind, and no other; but in a Book, that ſuch a row hath ſuch a kind of *Fruit* in it, and it's but entring where there are ſeveral in one row, there may be a Stake knockt into the ground at the beginning of every new ſort, and ſo entred in your Book; and where you have very few of a kind (or for your whole *Nurſery*, if you pleaſe) you may make *marks* of ſeveral *figures* or ſhapes, in the *bark* of the *Stocks*; which *marks* enter into your Book, and what *kind* it denotes, and at two or three years when you remove it, the mark will be very viſible; and by renewing the marks ſometimes, you may continue it as long as you pleaſe, and if any Tree be ſtolen you may own it by the mark. Marking Trees.

CHAP. VIII.

Of Planting Wall-Fruit.

Time. SECT. 1. *Stone-fruit* will be first ready to remove, for after two years growth in the Seed-plot or Nursery, after they are Inoculated, or Graffed, you may well remove them, be they for *Wall* or *Dwarfs*, which you ought to do in *October* or *November*; early removing, being advantageous for all *Fruit-Trees*, both for the security of their growing, and for their well growing.

Young *Trees*, having been taken up about *November*, and the ends of the roots cut off, and laid in the Earth till *March* to be Planted, being then taken forth again, it hath appeared that they have put out many fibrous roots, at the ends of those big roots that were cut off; which had they done in the place they were to grow in the next Summer, this would have been a good preparation against Spring; and it's always seen that Trees set in *February* or *March*, make generally a much less growth the next year,

year, than thoſe that were ſet before Winter. If a dry Summer happen to ſucceed, it often kills ſome of the late ſet Trees, and puts ſuch a ſtop to others, that they recover not of many years.

In ſharp Froſts, though you could dig, it's not good to remove Trees.

Yet if you have a few ſmall *Trees* near hand to remove, you may make advantage of a ſmall *Froſt*, by removing them, in getting up the *Earth* whole about the roots of the Tree, and ſet it preſently letting as little Earth *fall* from them as may be, whereby the Tree may be ſcarcely ſenſible of *removing*: And at all times if you have not far to carry the *Trees* to ſet them, knock not off the mold from the *roots*, but preſerve as much as you can about them.

Sect. 2. Make a Trench by the Wall-ſide you are to ſet them up to, about two foot broad, and as deep, and in every place where a Tree is to be ſet, about a yard ſquare, mingle good *old rotten Neats-dung*, with the Earth, and fill it up lightly, near as high as you intend the borders to be, and tread it down; So that it be not above half full in the places you deſigned to ſet the trees, as to the borders make them up when you pleaſe. Preparing ground.

But if you deſign no borders, make then only a hole for each Tree, of the ſquare before mentioned: And if your *Soil* be *wet*, or *binding gravel*, or ſuch like, very bad in the bottom, go not ſo deep, it will be better to ſet them ſhallow, and raiſe the Earth about them.

I knew an excellent *Planter*, that in a blewiſh clay ground, uſed at the bottom of the *hole* to ſet a broad ſtone, to prevent the Roots of the *Trees* in runing downward, and certainly where the Land is ſpungy or bad in the bottom, you cannot ſet the Trees too ſhallow; ſo that the Earth be deep enough above them to prevent the Sun's burning them the Summer.

Diſtance. As to the diſtance *Wall-fruit-trees* are to be ſet at, where they are apt to grow, you may learn that beſt by conſidering their aptneſs to ſpread: *Apricocks* and *Pears* ſpread moſt, the *May Cherry* and ſome others are of very ſmall growth; it's impoſſible to give rules for all, but the general diſtance is about four yards aſunder.

Mixing Soils, and ſetting them. *Sect.* 3. If it be not a manur'd Land you ſet them in, have in readineſs ſome very *fine rich Mold*, or *ſhovellings* of a yard where

where Cattle are frequently lodged or fed, that hath lain on heaps till it's *mellow*, and become dry, or *rotten Neats-dung*, which you may mix with the Earth that came forth of the hole, and ſo order it, that it may be as good or better, than that out of which your Trees came: Fill the hole half way up with this, and tread it down in ſuch form (having reſpect to the *roots* of the Tree that is to be ſet in it) that the *roots* may reſt cloſe upon it. Cut off the ends of all the *roots*, (if it chance to have one long downright *root*, you may cut it almoſt half off,) try (by ſetting the Tree in the hole) which ſide will ſtand beſt to the Wall, and then cut off ſuch branches as grow directly toward, and fromward the Wall, leaving only the ſide branches, to be nail'd unto it, then clap your Tree in, placing it as far from the Wall as the *top* will allow, that muſt be ſpread upon it, that the *roots* may have the more liberty to ſpread backwards: fill up the hole with the *mold*, and uſe all diligence to place the *roots* of your Tree in the ſame poſture they were in before you removed it. If the Tree be young, and the *Roots* ſlender, this can be performed no way but by throwing in a little ſoil at a time,

and

and then raiſing up with your hands ſuch *Roots* as are preſſed down by it below their proper ſituation, ſpreading them on the ſoil you have caſt in, and then throwing in more, and ordering the Roots as before, ſo continuing to do till you have filled up the hole.

Old Trees with ſturdy Roots do not require ſo much curioſity; but you muſt be ſure that the mold lie cloſe under, betwixt, and among the Roots.

If the *Soil* be *light*, you muſt preſs it down gently with your foot, when you have finiſhed placing the Earth about them, you may (if the Land be ſtiff, cold, wet, or barren) cover the Earth with Dung, round about the Tree, but if the Land be good, or that you cannot ſpare Dung, then in the end of *February* following cover the Earth with *Fearn* or *Straw* almoſt a foot thick, and this do then, rather than when you ſet the Tree that Earth may have more benefit of the Froſt and Wet in the Winter to temper it. And ſome in ſetting Trees eſteem it beſt to put no Dung into the holes, but the ſoil that came forth of it, both under and about the *Roots*, placing the ſmalleſt and beſt mold next them,

laying

laying a good quantity of Dung on the top of the Earth about them.

Sect. 4. Every year it will be neceſſary to *prune* and *nail* them to the Wall, *twice*, or *thrice*, according as they grow more or leſs; wherein you muſt obſerve, to bend down the ſtrongeſt *ſhoots* (that would grow upward) towards the ſides, otherwiſe they will be apt to run ſtraight upward, and not cover the ſpace you deſign for them, and by their luxurious growth, will extreamly rob the ſide branches of their nouriſhment. There will branches enow ſpring out freſh to run upwards out of them when they are ſo bowed. Lay none a-croſs or under one another, but let them ſpread as the fingers of your hand when it is expanded. Spreading Trees on the Wall.

Cut off ſuch as grow directly outward cloſe to the body; if you cut a part of any branch off, do it at a bud, that the cut may be covered with a freſh ſprig. Pruning.

The *Winter pruning* may be done as ſoon as the *fruit*, and leaves are fallen, or any time before *February*, except *Nectarines*, and *Peaches*, which are apt to die, if prun'd before the Sap raiſe. Mr. *Rea* ſaith, the beſt time to Prune them, is after they flower.

Shreads

Shreads of Wollen Cloth are the beſt things to Nail them up with; ſome uſe gentle Leather, or an old Hat, any of theſe may ſerve turn.

Baring Roots, and recruiting Soil.

Sect. 5. Sometime in the Winter, after *two* or *three* years, if the *Soil* the *roots* are to ſpread into, be not *rich* enough, open the ground at the outſide of the *holes* you made at ſetting, as near round about, as the Wall will permit. If you find no roots bare, let it lye open a month, and then fill it up with the Earth that came forth, well mixt with ſuch a *manure* as ſuits with it.

Amending Soil.

Sect. 6. Where the natural *ſoil* is not good enough of it ſelf, whether it be in *Garden*, *Orchard*, or *Field*, there it ought to be by skill aſſiſted, and better'd, at leaſt-wiſe for ſuch a compaſs as the *roots* of every Tree take up for ſome time, if not ſo far round as they are ever like to extend themſelves.

And this muſt be done by mixing ſuch *Manures* with the *Soil*, as ſuit beſt with its temper.

Cold.

If the *Soil* be *clay*, or *clay* mixt with *gravel*, or *wet heavy Land*, *hot Dung*, as that of *Horſes*, or *Poultry*, is beſt to mix with it, to bring it to a due temperament.

And

And if the *ſoil* be a *light*, *hollow*, *eskie*, or *ſandy land*, then *Marl*, *Mud* out of a Pond or River, or *ſhovellings* of *dirty yards* or *high-ways*, if they be not *ſandy*, and be well *mellowed*, by lying on heaps, and eſpecially if thoſe heaps are mixed with Lime, are proper to mend it. Light.

If this laſt *ſoil* be *barren* likewiſe, you may properly add a mixture of *Neats-dung*. Barren.

If your Land be too rich (which is ſeldom ſeen) you may mix Gravel or cold clay with it. Over-rich.

I have ſeen an *Apple-tree* on a *Hemp-but*, which was conſtantly Plowed, and Manur'd to a great richneſs, bear more *Apples* than four ſuch Trees in an *Orchard* would do. And it's conſtantly ſeen in *barren hungry Land*, Trees thrive poorly, grow *Moſſey*, or *Bark-bound*, bearing very little, and that a very poor *Fruit*.

Only *Wallnut-trees* and *Pear-trees*, do not neceſſarily require a very *rich ground*, and will proſper beſt on ſtony and light Land.

Sect. 7. When your *Wall-trees* are grown old, and full of big Wood, you may in three or four years time renew them, by cutting out ſome of the biggeſt *ſtems*, or *boughs*, yearly; cutting each Renewing old Trees.

each branch off at ſome ſmall twig, (if it may be) that either it, or a freſh branch my grow over the cut place; which muſt be kept covered with Clay; and ſo go on yearly, till all the big wood is cut out.

Or if you diſlike the kind of *Fruit*, you may *Inoculate*, or *Graff* the boughs with a better ſort of *Fruit*, but not all in one year, but ſome one, and ſome another.

By either of theſe ways, you may renew a decaying Tree, and keep your *Wall* almoſt ſtill furniſhed, with leſs trouble and charge, or loſs of time than by taking up the old one, and *planting* a young one in its ſtead.

If the *Tree* be ſo old, that you reſolve to take it up, and plant another in its place, if you have none ready, nor are willing to buy, the ſpeedieſt way to be ſupplyed, you may find directed in Chapter the firſt, Section the Ninth.

Appropriating Fruit to walls.

Sect. 8. In furniſhing your *Walls* with *Fruit-trees*, obſerve always to Plant *Peaches* and *Nectarines* up to the *Wall* that is moſt *South-ward*; the *Eaſt-Wall* is to be allotted to *Apricocks*, early *Cherries*, and the choiceſt *Plums*; the *Weſt* may be ſet with *Pears*, *Cherries*, and *Plums*.

Some

Some of the courſeſt *Pears* and *Plums*, you may ſet to the *North-Wall*, both to cover the *Wall* handſomely, and many years they will bear as well on it, as on *ſtandards*; eſpecially if your *wall* ſtand not directly *North*, but ſo as to have ſome conſiderable benefit of the Sun; *Nut-trees* likewiſe are proper for this *wall*, and will proſper well up to it.

For thoſe Autumnal and winter *Pears*, that ripen late, the moſt *South* and higheſt wall, doth improve them, and they deſerve it, neither will ſome come to maturity in our Climate (ſome years) without ſuch a wall. I would willingly beſtow the beſt place I had upon one *Winter-Boncreiſten*, two *Buryes* or *Butter Pears*, two *Virgulees*, and two *Chaſſeryes*, a St. *Germans*, St. *Michael*, the *Craſſon*, the *Bon-Gerſon*.

If your conveniencies will allow it, and you are to build a new *Wall*, it is much better to have your *Garden walls* not to ſtand directly towards the *four points*, than otherwiſe, and then the worſt wall will be much better, and the beſt good enough for your purpoſe. Poſition of a wall.

As

As thus, the *East-wall*, to incline to the *South*; the *South*, to the *West*; the *west*, to the *North*; the *North* to the *East*; or contrary, but not so well.

In the first way the two first walls will be extraordinary good, and the two latter good enough for ordinary *Fruit*.

A form for Making a wall.

Sect. 9. In building a new Wall, it would be very advantageous, to make it with half rounds, each semi-circle being eight yards round in the inside, and about six yards in the face or diameter, each taking two Trees; and betwixt every half round, let there be two foot breadth of plain walling, where you may place a *Flower-pot* on a *pillar two foot* high, or Plant a *Vine* to run up it, which every Summer, you may let spread it self a little into the *half rounds* on each side it.

I know an honourable Gentleman, in somewhat a cold Country, that hath his Garden walls so made, and his Trees bear Fruit plentifully in such years as his neighbours generally fail.

I also saw a *wall* made thus for raising *Melons* under, by a pattern or directions from *Italy*.

I have alſo ſeen *Grapes* ripen delicately on every ſide the *cluſter*, that grew in a *half round*.

By means of theſe *rounds*, every *wall* will one time of the day or other, have a ſhare of the Sun, and the beſt *walls* (by reaſon of ſuch a reflection, and collection of the Sun-beams as will be in every *round*) will be exceeding hot, and the *Trees* be more ſecure from winds.

Having ſaid thus much here of the *Wall* that *Fruit trees* are to be ſet up to, thus much more may not improperly be here added.

That a *Pale* is as good for this purpoſe, and in reſpect of ripening *Fruit* better than any thing elſe it can be raiſed up to, if the *Pale* be made of ſawed boards, nine or ten foot high, and exactly joined, that no wind may come through: Next to this in goodneſs is a *Brick-wall*, and then a *Stone-wall*, and the worſt of all that which is made of *Timber* and *Mortar*; but in this every one cannot be his own chooſer, but muſt comply with what the *Country* he lives in will permit him to do for his beſt convenience. Choice of ſorts of Walls.

When you *plant* your *Garden* with *Fruit trees*, you may do well to draw Draw a Platform.

the *Platform* of it in Paper, and ſo ſet down the name of every Tree, according to the place it ſtands in, whether in *Wall-fruit* or *Dwarf-trees*, the ſame courſe you may uſe about your *Orchard*, and you will find it both ſatisfactory and uſeful,, that you may readily at any ſeaſon of the year, know what kind of *Fruit* every Tree beareth : The *Fruit* planted in *Fields*, not being of ſo much variety, may be eaſily diſtinguiſhed without this help.

CHAP. IX.

Concerning Dwarf-Trees.

Advantage of Dwarfs.

SECT. 1. Theſe *Trees* have been of late much affected and coveted, becauſe they are of ſpecial advantage for Table-fruit, (whether *Pears*, *Apples*, *Plums*(or *Cherries*) being but of low Stature, and may be *planted* in the *borders* of *Garden-walks*, without doing any thing elſe there about them any prejudice, by overſhadowing them; and their *fruit* will be as well ſecured, and com-

commodious for gathering as the *Wall-fruit.*

Sect. 2. *Plants* for this purpoſe muſt be provided, and prepared ſomewhat differently from thoſe for *Orchards*, or *Fields.* Stocks for Pear-trees.

The *Quince-tree* is generally uſed, and beſt for *Stocks* for *Pears*, both for *Dwarfs* and *Wall*; as well becauſe it may poſſibly ſomewhat meliorate the *Pear* as (and that chiefly) becauſe it groweth not to that bigneſs, as on a *Pear-ſtock* it would be apt to do.

Sect. 3. For *Dwarf-Apple-trees* the beſt *Stocks* are ſuch as are raiſed of the *cuttings* of other *Apple-trees*, as of the *Gennet-moil*, the *Kentiſh-Codling* and others. For Apple-trees.

That theſe are more proper for *Dwarf-trees*, than *Crab-ſtocks*, appears;

1. Becauſe the *Fruit* will be rather better'd, and not tainted with any aſperity, or roughneſs, as poſſibly it might be, if *Crab tree-ſtocks* were made uſe of; and one chief deſign in theſe *Trees* is to have choice and delicious Fruit for eating.

2. *Apple-trees* that are raiſed on ſuch *Stocks*, will not grow ſo big as thoſe on *Crab-ſtocks*, but are with eaſe and certainty kept *Dwarfs*. Mr. *Rea* judging

the *Paradiſe-Apple* of ſomewhat ſlow growth in bringing forward a *Scion*, adviſes to *graff* a *Paradiſe* on a *Crab-ſtock*, and the *Fruit* you would have, on that *Paradiſe*, that the *Crab* might yield plenty of *juice* or *ſap* to the *Paradiſe*, and the *Paradiſe* retard the growth of the *Apple planted* on it, ſo as to keep it a *Dwarf*; but beſides loſs of time, I doubt the ſucceſs of this, becauſe the *Crab* will put forth ſtrong Roots, and yield plenty of nouriſhment: For why *Apple-trees* raiſed by *cuttings* grow not to be very large Trees, I take to be, their putting forth ſuch ſmall *Roots*, by which means the Tree hath *ſap* conveyed to it accordingly.

3. By uſing theſe *cuttings* for *Stocks*, you ſhall get at leaſt four years time, reckoning from ſowing the *Crab-kernel*, and the ſetting the *Stem* or *Cutting*, being duly ordered; As,

1. By ſetting the *Stem* in the place you intend the *Dwarf-tree* ſhall grow.
2. And ſetting it in good Earth, for then after one years growth you may *Graff* it, and you will eaſily diſcern the advantage in point of time.

If

If it be ſaid *Crab-ſtocks* ready grown may be made uſe of inſtead of *cuttings*; there's this Anſwer ready, They muſt grow *two* if not *three* years after they are ſet before they are fit to *graff*, and in reſpect of their large growth will not be fit for *Dwarfs*.

Some *Nurſery Men* have made advantage to themſelves by this ſpeedy way of raiſing Trees by *Cuttings*, but to the diſadvantage of them they put them off for *planting* in *Orchards*, becauſe they are never like to make large, or long laſting Trees. A Cheat.

Sect. 4. The way then to provide theſe *Stocks* is thus: Rules for providing them.

In *October* from ſuch *Trees* whoſe *cuttings* will grow, take ſuch *ſtems*, or *branches* that grow ſtraighteſt, and which (in the place where they ſhall be *graffed*) are an *inch* or more thick, if they be near *two inches* it's ſo much the better; cut them off, if you can, a hands breadth below ſuch *knots* or *burrs* as are on them, for at thoſe *burs* they principally put forth their *Roots*) and cut off the top, that they be not above a yard long, if you cannot get them ſo long of *Quinces*) you muſt be content with ſhorter, (if they be *two foot* it may do

reaſonably well: Cut off alſo all ſide *branches* cloſe to the body, except one ſmall twigg near the top, for the Sap to vent it ſelf at, ſet theſe preſently in *beds* as your *Seed-plants* were, or rather if your *Garden* be laid out (that you can know the places they ſhall ſtand in) ſet them there.

You need not fear ſetting theſe as deep, as the length will bear, ſo that there be about a *foot* above ground, becauſe they will ſhoot out *roots* all along, almoſt to the top of the ground, and to ſpread their *roots* in the good Soil; and by ſetting them ſomething deep they are in leſs danger of dying, and this prevents the trouble of covering the ground about them with *Fearn* or *Straw*; and by this means likewiſe they will ſtand the firmer in the looſe *Garden-land*, for *graffing* at a years end, and better ſupport a *ſpreading top* afterwards.

By Circumpoſition.

Sect. 5. But becauſe it's hard to meet with great plenty of ſuch *branches*, thus to be cut, and ſet for *ſtocks*, that have *burrs* or *knots* upon them; *Planters* have therefore found out a way (which is called *Circumpoſition*) to bring theſe *knots* or *burrs* upon *Branches*, that had them not before, and to mend and improve thoſe that before had them, and the way of it is as followeth. About

About the beginning of *February* next before you design to cut these *stems*, directly above the place you intend to cut them off at, for about a *foot* in length, fasten about them some Earth in an *old Hat*, or *Boot*, or *Bag*, made of some strong Cloth: And in that Earth they will have put forth Roots against the *October* following, when you are to cut them off to set them.

Or (which is a quicker and readier way) you may dawb some *wet Earth* or *Clay* about the place, and wrap a *Hay-band* about it, putting some moist Earth likewise betwixt the *rounds* of the band, and then running it about again over the spaces betwixt those first *rounds* of the *Hay-band* and making fast the ends of it. If the *stem* have no *burr* before you go either of these ways to work, then first take off here and there a little *slice* of *Bark* about an *inch* long round about it near the middle of the place to be covered as hath been directed. Another way.

Some direct, That before this application of the Earth, about an *inch* breadth of the *Bark* be taken off, round about the part of the *branch*, that is to be surrounded with the Earth, that *roots* may shoot out in greater quantity, by coming An Error.

out in the upper *skirts* of that *circle*, as well as in the lower; but this is but a Crotchet, and grounded (as my Lord *Bacon* hath truly obſerved) upon the opinion of the *Deſcenſion* of the *Sap*; whereas indeed there is no ſuch thing, for the whole maſs of *Sap* is always aſcending; in leſſer quantity in the Winter, becauſe the Tree is then only to be nouriſhed, and kept alive, to which end a ſmall ſupply is ſufficient, and yet neceſſary; and in greater plenty than the Summer, to furniſh the Tree with leaves, fruit, and new yearly growth. And the true reaſon why the *leaves* and *fruit* fall off towards Winter is, not becauſe the *ſap* returns downward from them, but becauſe they have arrived to their full ripeneſs, and the Tree fails by degrees, to convey up ſo much Sap as it did in the Summer to them, to produce freſh ones; and therefore conſequently that's an idle miſtake too, to think that the *ſap* or *juice* in the Winter, is laid up in the Roots as a *repoſitory*, as appears plainly, inaſmuch as they are ever found dryer in the Winter than in the Summer.

No deſcenſion of Sap.

So that upon the whole, this taking the *Bark* off round the *branch*, is good for nothing, but to endanger it, by in-

ter-

tercepting the *juice* or *ſap*, which riſes in greateſt quantity betwixt the *bark* and the *wood*; but if, as before was hinted, you take ſome little *ſlices* of the *bark* off round the *branch*, here and there, leaving the Bark intire in ſome places, this may, by checking the Sap, cauſe it the more abundantly to paſs into *Roots*.

But to proceed to the buſineſs in hand, you have ſeen the way of preparing *cuttings* by *circumpoſition*, and though ſome will pretend to raiſe Trees of any kind by the uſe of it, yet it's certain it avails not, but only in ſuch as by a peculiar property are apt to put forth *Roots*, being cut off and ſet into the ground; and thoſe generally known, and made uſe of this way, are the *Kentiſh-Codling*, the *Gennet-moil*, ſome ſorts of *Sweet-Apples*, and *Bitter-ſweets*, the *Quince-tree*, the *Mulbery-tree*, and the *Paradiſe-Apple-tree*; which laſt is much commended by the skilful Mr. *Rea*, for to raiſe *Stocks* for *Dwarf-Apple-trees*. What Trees are raiſed by Circumpoſition.

Sect. 6. Another way to raiſe *Stocks* for *Dwarf trees*, is to cut down ſome one Tree of little worth, of ſuch a kind as you want *Stocks* of, about a *foot*, or more from the ground: This will make ſome kind of Trees very apt to caſt forth very By cutting down an old Tree.

very good *Suckers* from the old *Roots*; ſuch as are two years growth may be *tranſplanted*, or *inoculated* where they ſtand before removal; and the Stump above ground, will alſo put forth abundance of young Shoots. After theſe young *ſhoots* have grown out of the ſtump one year, caſt *Mold*, or *Earth* about them, a good height; ſo that you cover not the *tops* of any of them; where let them grow two years more, and they will be well rooted, then cut them off from the old *Stock*, (which after that may yield freſh ones again) and ſet the *ſhoots* you take off as before hath been directed about Cuttings.

Theſe will be about three years longer before they be ready to *graff* than *Cuttings*, but will be very good young freſh *Stocks*, and is a good way to raiſe *Stocks* of the *Quince-tree* for *Pears*; becauſe *Quince-trees* generally grow ſo crooked and irregular, that it's difficult to procure any conſiderable quantity of them by *Cuttings*.

You may gain time in raiſing *Trees* thisway if you inoculate theſe young *ſuckers* or *Shoots* where they ſtand, as ſoon as they are big enough, and let them continue

tinue there to make one years growth; by which time they will be well rooted, and ready to remove.

If they ſhoot up tall after they are molded, you had beſt top them at a convenient height, it will make them grow the more in bigneſs, and ſo be ſooner fit to *graff*. But if you have a deſire to have any of the ſame kind as the old Tree was, you need not top them.

And by this means if you want *Quince-trees*, *Codlings*, &c. you may be furniſhed with plenty, that will make better and handſomer Trees than if you raiſe them by *Cuttings*.

By Suckers. *Sect.* 7. You may alſo raiſe *Stocks* for *Dwarf-Pear-trees* from *Suckers* of *old Pear-trees*, (if you cannot conveniently get enow of the *Quince-tree*) for many *Pear-trees* caſt them naturally, which being preſerved from Cattle, may be taken up, and ſet in beds of Earth as you did the *Seedlings*.

To procure them. If your *Pear-trees* yield not *Suckers* of themſelves, you need only cut off the *top* of ſome old *Pear-tree* (and *Graff* it with a better *Fruit* if you pleaſe) and the *Roots* will caſt forth *Suckers* plentifully, and you may help them by making

king a ſmall Ditch or Gutter, ſo as to bare ſome of the *roots*, about two yards diſtance from the Tree, or pare of the Graſs (if any grow about the Tree) that they may have the more liberty to ſpring up.

A further help. Or in this caſe you may bare the *roots*, and then give a *cut* croſs ſome *roots* almoſt to the heart, and from the croſs *cut* cleave the *root*, raiſing up the looſe part, and put in a little ſtone to keep it open, cover it three inches over with *mold*: Let this be done, if you can, where you find a *bud*, or *eye* on the *root*, for the *ſucker* to ſhoot out at; and either *inoculate* the young ſhoot in the place where it ſtands, or remove it to ſome other place after a years growth, and when you do, cut off with it about a foot of the *old root*; and by this means you may have *ſuckers* from ſome other Trees, that do not naturally yield them.

For Cherries and Plums. *Sect.* 8. To have *Stocks* for *Dwarf-Cherries*, and *Plums*, or for ſuch Trees for a *Wall*, the ſpeedieſt way, and ſuch as will ſucceed for that purpoſe, is by *ſuckers* of the common *Red-Cherry*, and any ordinary *Plum-tree*; both which caſt up *ſuckers* plentifully.

If the *ſuckers* grow in a place that is ſecure from harm, you may *inoculate* or *graff* them before removal under their Mother Plant, and let them grow there one year after; and hereby you will gain a years time and more; chooſe ſuch *ſuckers* as grow at greateſt diſtance from the old Tree.

Sect. 9. In *graffing* or *inoculating Stocks* for *Dwarf-trees*, obſerve to do it as low as you well can, with two *Scions*, and thoſe longer than in *graffing* for large *ſtandards*, that they may ſpread from the ground. Ordering the heads of Dwarfs.

And after they are grown two or three years in the places they are to ſtand in, to make them ſpread, and to keep the boughs outward, you may tie an old *hoop* of a *Barrel*, or ſome ſuch thing, in the midſt of the *branches*, to bear them a good diſtance one from another; but if one *branch* be much ſtronger, or more inclined to grow upright than the reſt, then you may drive a Stake into the ground, and tie the ſturdy one down to it. Means to ſpread them.

If you cut the *bark croſs wiſe* in ſeveral places on the inſide of the *branches*, when they are placed as you would have them, it will be a means to make them

them more willing to continue in that order of their own accord, after ſome years growth: If any one *branch* ſhoot out much further than the other, cut off its *top* to keep it even with the reſt, and yearly cut much off, eſpecially new *ſhoots*, that grow directly upward, after they are grown to that height you deſign them to be of, which may be about a yard and a half, or more.

Trees of Cuttings.

Sect. 10. Having directed how to raiſe *Kentiſh-Codlings*, *Gennet-Moils*, *Quinces*, or any that grow of *cuttings* for *Stocks*, I need give no other Rules for raiſing Trees or Hedges of the ſame kind of Fruit, only you need not cut them ſo ſhort as you do for *Stocks*.

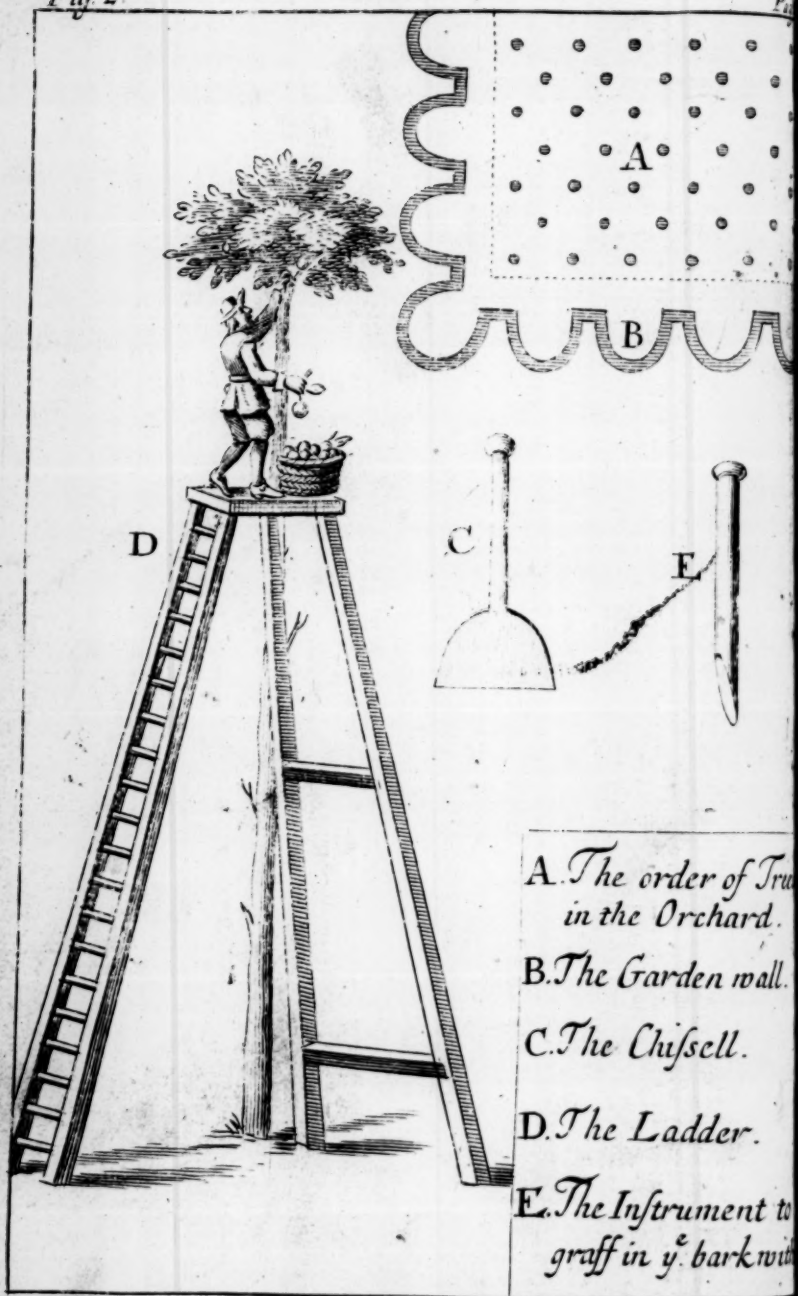
Graffing Codlings.

I have ſeen *Codlings graffed* on *Crab-ſtocks*, and ſet in a Garden; but I think it will encreaſe their growth, becauſe *Crab-ſtocks* that have great *Roots*, and will yield them more plenty of nouriſhment than *Roots* of their own putting forth, when they are raiſed by *Cuttings*.

Moils.

Others *graff Gennet-moils* on *Crab-ſtocks*, and they thrive well, and bear a larger and (ſome think) a better Fruit than thoſe Trees of that kind raiſed by *Cuttings*; I have *graffed* ſeveral of them in *rough* and *woody grounds* which have grown

Fig: 2.



A. The order of Tru
in the Orchard.

B. The Garden wall.

C. The Chiſsell.

D. The Ladder.

E. The Inſtrument to
graff in y^e^ bark wit

grown with very ſtrong *ſhoots*, and covered the *Stocks* very ſoon.

CHAP. X.

Of Planting an Orchard.

SECT. 1. So far as it lieth in a Man's power to chooſe a Plot of ground for his *Orchard*, he ought to do it with reſpect to theſe advantages. Choice of ground.

It ſhould lie conveniently near him, declining and lying open towards the *South*, *South-Eaſt*, or *South-Weſt*, and defended from the *North*, *North-Eaſt*, and *North-Weſt* winds by buildings, woods, or higher grounds; the land ſhould rather incline to *dryneſs* than *moiſture*, without *Springs*; the *Soil deep*, and a *fat Earth*, not *a ſtiff cold Clay*, or *binding Gravel*, nor a *light*, *ſandy*, or *eskie hollow Earth*: Yet with good Husbandry, if it run not into the extreams of any of theſe, *Fruit-trees* may proſper reaſonable well in it.

But the natural *Soil* for an *Orchard* is more to be reſpected than a *Garden*, for the *Garden Fruit trees*, and what elſe Soil.

groweth

groweth there, rooteth little deeper than it may eaſily be *manured*; but *Pear-trees* and *Apple-trees* in *Orchards* ſhould grow to be large *Trees*, and therefore ſend forth *roots* broad and deep, ſo that it tranſcends almoſt all coſt and pains, to enrich the ground for them, as far as the Roots every way reach.

To qualifie ground.

Sect. 2. If the Land you intend for it be a *Turf*, or *green-ſward*, you will do well to Plow it two years before you ſet your Trees in it, to make it *mellow* and looſe, that the Trees may the better take root; and you may then lay on *Manure*, which by Plowing will be well mixt with the natural Soil; and uſe ſuch *Manure* as will beſt ſuit to amend it, according to what you have heard before in the *8th Ch. Sect. 6th.*

Flat and ſhallow.

If your Land lie very *flat*, that wet is apt to ſtand upon it, or be a *ſhallow ſoil*, you may ſomething help it in Plowing; alſo, by gathering the Land always up, in and near the place where you intend the *rows of Trees* ſhall afterwards ſtand, which in two years time will ſomething raiſe it, and thicken the *Soil*, and the *Reanes* or *Furrows* ſo made, will help to carry off the Water.

But

But if it be a *ſpringey Land*, you muſt Trench it at the head of the Spring, and that deeper than the Channel of the Spring runs in the Earth, which you may leave open, and yearly cleanſe, or fill it with *Oler* boughs, and cover them with the Turf and Earth that came forth, much higher than the other Land, for the Wood and looſe Earth will ſink very much by degrees. Spring.

If it be not *ſpringey*, but only lye ſo *low* and *flat*, that in the Winter Rain, or Land-floods will lye upon it, and that it hath been lately Plowed, or that you will not loſe two years time by Plowing it, before you ſet your Trees, or if it be a *ſhallow* or *ebb ſoil*, you had beſt ſet the Trees by *Tumping*, according to the directions in *Field-planting*, which you will find hereafter ſpoken fully to in its proper place. Standing water.

Sect. 3. If there be any unevenneſs in the Land, ſome direct to level it, by carrying the banks into low places; but this will not only be very chargeable, but hurtful, by making the high places too *barren*, and the low ground too *rich*. Of uneven ground.

But that your Trees may grow ſomewhat level in their *tops*, and not one over-ſhade another, and alſo appear comely, you may forecaſt to ſet ſuch Trees as grow *pendant*, or are not apt to grow tall Trees, on the higeſt ground, and ſuch as are aſpiring in the lower places.

Time and manner of planting it.

Sect. 4. The beſt time to *Tranſplant* into *Orchards*, is from the end of *September*, to near the end of *November*, the ſoonner the better: If the leaves are not all fallen when you remove your Trees, pick them off.

Pruning.

If your Trees are not very weak bodied, Prune them up, leaving *three* or *four* of the principal *branches* on the *top*, that grow outward, which ſhould be lopp'd off almoſt a years growth; but if they be weak (leſt the wind ſhould injure them by toſſing them) you may top them lower, doing it at a *bud*, or ſmall *twig*; and in big Trees, cut the *top* almoſt all off; and whenſoever you *tranſplant* young Trees, cut off the end of all big *roots*.

Of removal of Trees.

Sect. 5. At three years end, after *Graffing* in the *Nurſery*, Trees may be fit to be removed into an *Orchard*, eſpecially if you Plow (or which is ſafer dig) the *Orchard Land*, and ſent Beans and

and other *Kitchen-Garden-ſtuff* in it for ſome years; but if it be ſuch a piece of Land that you Graze, then you muſt be ſure their heads be grown out of the reach of Cattle before you ſet them there, and you muſt Fence them one of the ways mentioned hereafter, in the *Chapter* of *Field-planting*.

Sect. 6. The *diſtance* of Trees in *Orchards* ought not to be leſs than eight yards, neither need it be more then *thirteen*, or *fourteen*; the richer the Land is, the greater diſtance you ought to ſet the Trees at from one another, to which you ought to have reſpect, and alſo to the kinds of *Fruit-trees* you Plant, for ſome Trees take up more room in their growth than others, as moſt *Pear-trees* more than *Apple-trees*, and ſome *Apple-trees* more than others, according to their aptneſs to grow more or leſs, too tedious and difficult to be here related; only the *Redſtake* being generally a deſired Fruit, you may take notice that it's one of the leaſt *Apple-trees*, where it yields the be *Sider*, ſometimes it's almoſt but a *ſhrub*: And therefore will ſuit well with planting at 20 foot diſtance, whereby each Acre will take up one hundered Trees. Of diſtance.

It's certainly best in many respects for Trees to be planted at a very good distance; for,

Convenience of planting at good distance.

1. The Plantation will be little annoyance to the Land, if either you set Garden stuff in it, sow Corn on it, while the Trees are young, or Graze it when they are grown up.

2. Whereas some say the more Trees the more Fruit; that's absolutely false, for when they are set so close, that the Sun cannot have a good influence upon them, they bear poorly and ripen worse.

3. They cannot grow to be Trees of that *size* set near as they would (if the land be good) being set at a good distance, and some kind of Trees being of stronger and swifter growth than others, will so domineer over their neighbours, that they will make them almost good for nothing.

4. You may plant betwixt every Tree a *Cherry-tree*, or *Codling-tree*, which may grow up, and bear with the other Trees many years, and never prejudice them but will decay before the others are at full growth,

Or

Or you may ſet a young *Apple-tree* or *Pear-tree*, betwixt every two of your *ſtandards*, that you ſet in your *Orchard*, and nurſe it up with neceſſary dreſſing and pruning *ſeven* or *eight* years or leſs time, to *Tranſplant* into *Fields*, or *Paſture-land* where Cattle feed, whereby with little help it will not be in ſuch danger of hurt from Cattle, as ſmall ones would, and bear *Fruit* ſoon after it's ſet; and you cannot let them grow ſo long in your *Nurſery* without *galling*, or *hurting* one another; unleſs when you remove Trees out of your Nurſery you take care to leave every other Tree, whereby they may have liberty to grow big, and ſo more fit for your fields.

Of tranſplanting Trees young or old.

Sect. 7. I know ſome are for removing Trees very young, and it's certainly the beſt way if they can be ſecure from danger, which in *Orchards* or *Fields* where Cattle have liberty to feed they cannot well be with ordinary fencing, unleſs they be of five or ſix years growth after *grafting*. He that hath a *Nurſery* of his own, and removes them into places ſo near that he can well do it, let him the very ſame or the next day after they are taken up, ſet them in the place appointed for them, and not cut off too

much of the roots, but the greateſt part of the top. And he may do well to plant *ſtrong* and *well grown* Trees, eſpecially in his *Fields* and *out-grounds*; for the charge of Fencing will be much eaſed, and being carefully ſet they may proſper as well, or better than ſmall ones, eſpecially in *uncultivated*, or ſtiff land by Nature, where young Trees cannot ſo well put fort roots. And here I ſhall propoſe a ſurer way to have old Trees remov'd grow, and proſper well, than is commonly practiſed; that is.

Means to have old trees tranſplanted proſper.

If you chance to have any Trees betwixt ten and thirty years old, that you have a mind to remove, you muſt about *November*, the year before you tranſplant them, dig a trench, as narrow as you pleaſe, but ſo deep as to meet with moſt of the ſpreading Roots, at ſuch a diſtance round about the body of the Tree, as you would cut the roots off at, when you remove it; (about half a yard diſtance from the body may do well, if they be not very large Trees, but if you have not far to carry them leave them longer;) as you make the Trench cut the roots, you meet with clear off, and ſmooth, without ſpliting them, or *bruſing* the *bark*, fill up the Trench again;

again; and by *October* next after, when you take up the Tree to ſet it elſewhere, you will find thoſe great roots will have put forth many *fibrous roots*, and made preparation for more; which freſh and tender roots, upon removal, will enable the Tree to draw more nouriſhment than otherwiſe it would, and conſequently to proſper the better in its new manſion.

Sect. 8. The beſt way you can ſet Trees in an *Orchard* is according to the Figure which is called a *Quincunx*. The order.

You are to proceed in ſetting your Trees in the ground by the ſame general rules, given for *Wall-fruit*, obſerving exactly all that is there, but only what in particular concerns the *wall*.

Alſo in *tranſplanting* any big Trees, men *generally* obſerve to *coaſt* them, (as it's termed) that is, to place the ſame ſide of the Tree to the *South*, *Eaſt*, *&c.* as grew formerly that way, where it ſtood before; to which end before you remove it, you had beſt make ſome *mark* in the *bark* of the Tree, which way it ſtood; this you may obſerve in ſtraight Trees, but it's more material if your Trees lean one way more than another, to ſet the leaning ſide towards the South- Coaſting.

West, from whence the strongest winds blow.

The Fence. Setting a new Hedge.

Sect. 9. The best quick Fence for your *Orchard* is a good *white-thorn*, that when it's grown up may be plashed, the better to prevent the creeping of *Hogs*, or *Sheep* into it; set no smooh quick in it, that may grow to great Trees, because they will be hurtful both to the *Hedge* and *Fruit-trees*, both by their *tops* and *roots*, when they are grown up; but set two rows of good *Hawthorn*, and make the *dead-hedge* on the outside the *ditch*, and the quick-set will grow the faster; for the Hedge upon the ditch is apt to choak the quick: And thus with sometimes weeding it, you may soon raise a good fence.

Mending an old Hedge.

If you have an *old hedge* already about you *Orchard*, scour the ditch, and *plash* the *hedge*, and cut down all big Trees that grow in it, unless on the North, or West-side, the one requiring a defence to keep the *Orchard* warm, the other to secure it somewhat from the strong winds, that blow down the fruit before its ripe, though it's better they grew on the outside the hedge.

Sect. 10.

Sect. 10. Your *Orchard-fruit-trees* as well as others, will need ſome pruning, which you may obſerve to do after this manner; if you deſire they ſhould be tall Trees, cut off all the ſide branches till they are grown to the height you deſire; if to ſpread low, let ſome be left on each ſide, that the boughs on any one ſide may not weigh down the Tree, but that it may grow ſtraight upright. Pruning outſide.

And ſuffer them not the firſt three years (at leaſt) to grow thick and buſhy headed, by cutting off ſome of the inſide ſhoots, and ſuch as grow croſs one another, or pendant; what you cut off from the bodies, or any branch, do it cloſe and even, that the bark may grow over it: If you cut part of any ſhoot, or a Scion for graffing, cut it cloſe at a bud or ſprig, that in that caſe the wound may again grow up and a ſtub end not be left behind. Inſide.

When Trees grow big, that a knife will not prune them, procure an Inſtrument like a broad *Chiſſel*, the handle of Iron, above a foot long, with a knob on the end, and the edge alike on both ſides, not ſloping on one ſide like that of Joyners; but plain as a knife, and very thin, about Big branches.

about 3 or 4 inches in breadth, the form you will ſee in the Table of Figures; Or you may make it like a Stone-cutters *Chiſſel*, only let it be longer and broader at the edge; with which, and a *Mallet*, you may take off a bough, or large branch as you will, without either hurting the bark of the Tree, by cutting too near, leaving a *ſtump*, by not cutting near enough; one of which is not eaſily avoided by the chance blows of an *Ax* or *Hatchet*; and being amongſt thick boughs, your *Chiſſel* and *Mallet* will be more governable than other inſtruments. If the boughs are very large you may uſe a *Saw* firſt, and then ſmooth it with the *Chiſſel*.

Soil amending.

Sect. 11. You will do well, if your *ſoil* be not *rich* enough, once in *three* of *four* years, in the Winter time, to open the Earth for a good ſpace round about each Tree on the outſide the ground that was firſt digged at their ſetting; and about a month after, with ſome proper *manure* mixt with what came forth fill up the trench again: but if you dig or Plow your land, you will have no need to do this ſo long; and if your Trees were ſet by *tumping*, you need not do this till the *roots* are grown paſt the ditch that was made about the *tump*. The

The Water that ſoaks from a Dung-hil is a good thing to enrich the Earth, about the roots of Trees; and if your *Orchard* chance to lye ſo, as that it may be floted with it ſometimes, you may do it after this manner. By water.

Make a little trench along the upper part of the *Orchard*, and from it cut a ſmall gutter down every row of Trees, take off the upper turf, for half a yards breadth round about every Tree, at about a foots breadth diſtant from the body; when a rainy day comes, let this ſoke go down one row, ſo that (as near as you can) every Tree may enjoy it three or four days at ſeveral times in one Winter. How.

If your Orchard ſtand ſo that you cannot convey this water to the Trees after this manner, you may carry two or three Pale-full to every Tree, twice or thrice a year, and pour it in where the roots were opened, and againſt ſpring put in the old Earth again; when you do firſt, ſtir up with ſomething the bottom of this water, the more to thicken and enrchit.

This will follow the roots, and enrich Trees more than can be done by manure, or dung, ſo that you ſuffer the water not

to

Placing of Trees.

Sect. 12. Within your Orchard, on the North-ſide, ſet the firſt rows of *Pear-trees*, or ſuch other Trees, as you know are apt to grow talleſt, and the reſt Southward, as they decreaſe in height, as near as you can judge; for ſo ſhall all your Trees ſhare in greater meaſure of the South-Sun, and will be leſs lyable to receive damage by the Northen cold.

Fencing from winds.

On the outſide of your Orchard, if it be not well defended, plant on the *Northſide two* or *three rows* of *Walnut-trees*, *Cheſnut-trees*, or ſome large growing Trees, thicker than is uſually done on other accounts, to preſerve your Orchard from the Northen air.

Some are alſo for Planting a defence one the Weſt-ſide, to help to preſerve them from the *Autumnal* winds, which throw down the Fruit before it's ripe.

CHAP.

CHAP. XI.

Of Planting in Fields.

SECT. 1. The benefit of this kind of *Planting* is apparent in ſeveral Countries in *England*, where it hath been of long and general uſage, and in many other Countries, Gentlemen have begun already to imitate them, which ſhould much encourage others to follow; for the more there are that *plant*, the leſs particular perſons will loſe by *Thieves*, and where fruit is in great plenty, it is found to be more ſlighted by idle people; and beſides if a Man have ſtore, he will not feel the loſs of a little; or it may quit his coſt, to have one to caſt an eye to them, for a Months time near ripening; and further yet, *Sider-Apples*, *Baking-Pears*, and *Pears* for *Perry*, are ſo little grateful to the taſt, (which pilferers chiefly aim at pleaſing) that he that taſts them once, ſhall ſcarcely find his teeth water after them a ſecond time. Encouragements in general.

How-

However the benefit of *planting* in *Fields* much out-weighs these, and all other incoveniences, for by this means you may almost have a double crop on your lands, *viz. grass* or *grain*, and your *fruit*, and the land rather benefited (as the matter may be ordered) than damaged; one of these Trees also sometimes bears as much *fruit*, as three of the best in a thick *planted Orchard*; the benefit whereof for sale, or use in a Family for baking, or Liquors, or other uses is known to be so considerable, that I need say no more of it.

Praticularly of Pears.

Sect. 2. But because the *planting Pear-trees* abroad in Fields, is of less reputation generally than the planting other Fruit-trees, I shall here give you sufficient suggestions to take off the Aspersion.

1. Some *Pears* do not make so contemptible a liquor, as *Perry* is commonly reckoned, but very strong, and kept *two* or *three* years, drinks to admiration, so that several good Palates, that have drank of it, have not been able to distinguish it well from liquors of more esteem.

2. Their *fruit* is not eatable, and so in less danger of Thieves, in your outgrounds than *Apples* are.

3. They

3. They will grow on barren land, where *Apples* will not prosper so well.

4. They are trees of long continuance, and often grow to that bigness, and bear so plentifully, that one single tree will bear Fruit enough to make a *Hogshead* of *Perry*, sometimes *two* or *three* in one year, which would save the expence of much *Malt*, though the liquor were but mean.

Sect. 3. There be seven ways of Planting in this kind; I shall set them all down, that every Man may use that which best suits with his conveniency, and good liking. Seven ways.

1. If your land be in Tillage, you may set fruit-trees at *thirty* yards distance from one another, throughout the whole Field, after the manner of an *Orchard*; and you may go on with your Plowing, with the loss only of about a yard, or four foot square of land, about every tree, for twenty years; and when they are grown so big, that you think your Corn receives hurt by the shade, or droppings of the trees, if you can turn it to Pasture, the trees will improve most kind of land, by keeping it warm in the Spring, they will make the Grass grow more early, and by shades in the Sum- I. Of Planting whole fields.

Summer, preſerving it from burning; but the Trees being ſet at ſuch a diſtance, the land may continue fit for any purpoſe for ever, if you dreſs or *prune* theſe trees higher up than any other, that no boughs may hang in the reach of Cattle, and for the convence of going about them with your *Team*, to any work, and thereby the Air and Rain will have free acceſs to the graſs, or grain near about them, and the fruit will be ſafer from common pilferers.

Fencing. Theſe need no other fencing than thorns bound about them, and a ſtake driven in the midſt, to keep them from ſhaking; becauſe you may receive the profit of the Stubble or Fallow, without ſuffering any large Cattle, that will browſe upon them, to come into the grounnd.

II. Walks. *Sect.* 4. Another way of *planting fruit-trees* in *Fields*, is by ſetting *walks* of them, running through the midſt, or along the ſides of your Paſture ground, where you have a mind to have *walks* for ornament: For why we ſhould not plant *Fruit-trees* for *walks*, as well a *Sycomores*, *Aſh-trees*, *&c.* I know not, there being ſome ſorts of *Fruit-trees* that will (and almoſt any kind may be ordered by

by pruning, ſo as to) grow very handſome in ſhape, beſides the beauty and ſweet ſmell of the bloſſoms, and worth of the *fruit*.

To prevent damage by Cattle, if you go this way to work in *Field-planting*, they muſt be well grown before you ſet them; that is, they muſt be of about *ſix* years growth, and then well *fenced*: and there are two ways uſed to ſave them harmleſs. Of Fencing.

1. *One* much commend is by *tumping* them; and it is performed thus: Set your tree in the place deſign'd, almoſt on the top of the ground, no deeper than to make it ſtand, (though all the *roots* be not covered,) till the *tump* or *mound* be raiſed about it; and then take a line, about a yard and a quarter long, tye the one end of it about the Tree, but ſo that in going round the Tree, with the line ſtrain'd, it may ſlip about the tree as you go, faſten the other end to an Iron ſetter, or ſtick with a ſharp point, and as you go round the tree mark the ground; make then a ditch on the outſide of the round *ſcore*, and lay the *turf* handſomely on the inſide, *two* or *three* hights, with the graſs ſide outward, ſo as to make the work full half a yard heigh; By Tumping.

caſt the *mold* out of the ditch, obſerving to throw the beſt of it next the roots of the tree, till you have raiſed it within, as high as the *turf*, then prick ſtrong thorns into the *mold*, that they may lie upon the *turf*, and point outwards a yard over the *turf*; as you place the thorns, put more *turf*, or *faſt heavy* Earth out of the ditch upon the ends of them, treading it down, the better to fix them; and lay the Earth ſhelving down from the *turf* towards the Tree, that if rain fall, it may ſoak towards the roots; if you have any ſmall *Thorns*, *Briers*, *Furs*, or *Goſt*, lay it on the top of the work finiſhed, round the tree, and repair all yearly, as you ſee cauſe, which may be done with ſmall trouble. The great convenience of this way of ſetting *fruit-trees*, will appear in theſe following Obſervations.

Advantages therein.

1. If your land be over moiſt, this ditch will drain all wet from the roots of the tree; but if the land be *clay*, or ſuch that water will ſtand in, then when you perceive it (which is very rarely) cut ſome little notch or trench, to let it out.

2. This way of ſetting, is commended in dry land; becauſe the Earth of the

the *mound* will ſecure the *roots*, from the heat of the Sun, and every ſhower of rain will much refreſh it, by ſoaking towards the Tree.

3. You need not bind your tree to a ſtake which doth often gall and hurt the tree, for ſo much Earth about it will keep it ſteady.

4. If your land be ſtiff, or *ſtrong old land*, the *mound* made of it will mellow and improve about the *roots*, and alſo by that time the roots ſpread as far as the ditch, it will be filled up with *mold*, fallen from the *tump*, and with ſticks, leaves, *&c.* which will be rotten, looſe and good for trees to root in; and by that time they will need little or no defence, if any at all; a few thorns tyed about the bodies of the trees, to keep Cattle from rubbing againſt them, will be enough.

5. The chief benefit of ſetting trees thus, is, that where the ſoil is ſomewhat too *moiſt* or *ſhallow*, the tree being ſet on the top of the land, will put forth its roots plentifully into the Earth caſt up, and thence ſhoot into the upper turf, and beſt land, that had been *Plowed* and *manured* before.

2. The ſecond way of fencing is, by erecting, By Pailing.

erecting, at a *foot* and a half diſtance one from another, about every tree, three ſmall poſts, (if they be ſawed they need be but *three* inches ſquare) or you may uſe poles, or ſtraight boughs, either whole, or if big enough, cloven in *two*, *three*, or *four* parts, about *five* foot above the ground in height; being driven into the ground, nail a croſs-bar of wood, from each to other, within a hand breadth of the tops of the poſts, to which bar nail a pale or two, betwixt each two poſts, ſtuck into the ground, or nail'd to the like croſs-bar, within a foot of the bottom of the poſts; the way of it may be ſeen now in diverſe places, and learnt in a minute; but I think what's here ſaid makes it plain enough.

In ſetting the poſts or poles in a triangle, obſerve to ſet one ſo as the ſtrongeſt winds may drive the tree towards it, for thereby the tree will have more liberty to be bent or bowed by the wind without galling, than if the rail ſtood oppoſite to that ſide.

Trees thus ſet ought to be bound to a ſtake for a year or two to keep them ſteady, and afterwards (or at firſt if you pleaſe uſing no ſtake) ſtuff *Fearn*, *Peaſe-ſtraw*, or other *Straw*, betwixt the *Tree* and the uppermoſt

permoſt rails, to keep it upright, and from being galled by the wind's bowing and driving it againſt any of the rails or poſts, till it be grown ſo ſtrong that you ſee no cauſe for it.

Some bind thorns about the trees before the poſts are ſet up to ſecure them, inſtead of Pales on the out-ſide, but that proves often miſchievous, the *Trees* being galled by them.

This is more chargeable than *tumping*, where timber is ſcarce, but much more durable than it, and abſolutely neceſſary where *Deer*, or *Rabbets*, or any thing that *peels* the *bark* of trees, come into the land planted. Where it's requiſite.

Sect. 5. Another way of *planting* in *Fields*, (which I have practiſed ſucceſsfully) is thus, When you ſcoure a *ditch*, and cut down or plaſh an old *quick-hedge*, then ſet a *row of Trees* within a yard of the hedge on that ſide that is not ditcht, and fence them with half round *tumps* only on the one ſide, for the hedge will ſecure them on the other; and from the cut or plaſht hedge, you will commonly have thorns and briers enough for the *mounds*, to fence it as hath been before directed; and at the ſame time, or in Summer, draw ſome of the *quick thorns*, *hips*, F III. By planting near hedges.

hips, or *briers*, from the Hedge into the fence, about the *tump*, which will contribute to the ſtrengthening and preſerving the dead fence you had made about it before, ſo that you may be free from trouble about it for ever after.

There are theſe advantages in this way of Planting.

Benefits thereby.

1. The ditch on the outſide the hedge, drains the ground and makes it healthful.

2. The ground near the hedge, is commonly very rich, as not having been impoveriſhed by Tillage, but improved, ſometimes by the oft ſcouring of the ditch, and commonly with the dung of Cattle that for ſhelter, ſhade, or fodder, repair much thither.

3. It's not the leaſt hindrance to plowing, or graſs, for the *hedge* when its grown up, uſually beareth out as far as the *tree* is ſet in the field.

4. And this is much better than *planting* in the *hedge-row*, as many do; for in the *hedge*, when the tree is grown to have a large top, it's apter to weaken the hedge under it; but theſe being ſet a little diſtance from the hedge, and growing (as they will) with the greateſt part of their *heads* from it, will not damage it.

5. The

5. The Fruit will be gathered with much more eaſe, than of thoſe that are planted in the hedges.

6. They will not be choakt, or hurt by the hedge when it's grown up, but be good handſome fair trees.

You may ſet theſe at *eight* yards diſtance, or nearer being but one ſingle *row*, and ſo if but half a field (as uſually it falls out) have the ditch on the outſide, you may ſet a conſiderable number, and find advantage, without damage, and with inconſiderable charge, eſpecially if the ditch ſtand on the *North-ſide*; if you can therefore, chooſe ſuch hedges. Diſtance.

This is not to be practiſed near hedges that are full of great wood, or trees; but if there be but few trees, it's but leaving a vacancy near ſuch trees, and ſetting your *fruit-trees* againſt ſuch places where there grow none in the hedge. Where not good.

Sect. 6. Another way of *planting* in *Fields* is this. If you would Plant without any charge of fencing, you may do it in your hedges; theſe trees muſt be well grown, and ſtrong, that the hedge choak them not while they are young; And when you plaſh, or cut down a quick hedge, obſerve no certain diſtance, IV. In Hedges.

but as it happens where you find it most free from *quick*, set a tree, and enclose the body in the hedge, but bind not the *Etherings* too close about it, lest they gall it, and as it groweth, observe what thorns annoy it and cut them off.

V. By Cuttings.

Sect. 7. If you have a mind to set any *Cuttings* of *Gennet-moils*, or other *Apple-trees*, that grow of *Cuttings*, they will prosper very well in, or rather near a hedge; because generally there the *mold* is loose and mellow for them to put forth Roots in, and somewhat enricht by the frequent cleansing of the ditch: If you plant them near the hedge, you must a little fence them on the one side, as by the *third* foregoing direction; but the *tumps* you raise to set the thorns in, must not be above a foot high, for the *cuttings* will shoot out their *roots*, almost to the top of the Earth about them, and a high *mound* falling down by degrees, some of the best *roots* may be left bare, or very little Earth upon them.

Of preparing them.

The way of preparing *plants* for this purpose, is by *circumposition*, &c. as is directed in the *Chapter* of *Dwarf-trees*.

Choice and ordering.

Make choice of *Cuttings* or *stems*, as big as a mans wrist (if you can) towards the lower end, before you set them, *prune* them

them out of the reach of Cattle, and leave but a little top on them when you ſet them, neither let them be very long: If the tops be out of the reach of Cattle, it's enough.

VI. By long Crab-ſtocks.

Sect. 8. There be ſome that get long *Crab-tree-ſtocks* out of *woods*, or elſe dreſs ſome up in their *Nurſeries*, to grow tall, and ſet them in their *fields*, or *hedges*, and at three years ſtanding *graff* them; which may do well, and is the better approved of, becauſe there needs no removal after they are graffed; but ſome inconvenience there is in this way: The long *ſtocks*, out of *woods*, being commonly very old, their bark *thick*, their *roots* big, they thrive but indifferently; and thoſe raiſed in *Nurſeries* will ſeldom be *taper* grown, or *ſtrong* enough to bear a large top well, after they are *graffed* ſo high as they ought, being ſet in fields: You will alſo be longer in raiſing *ſtocks* to that height, and any conſiderable ſtrength (as is neceſſary for this purpoſe) than in raiſing trees, if your *ſtock* be *graffed* young in your *Nurſery*, becauſe they thrive more after *graffing* than before.

Advantage.

Diſadvantage.

And in both caſes if you graff them high, the *ſtocks* will be continually put-

ting

ting forth *sprouts* of their own kind below the place they were graffed at, which will require frequent cutting off. If you graff them not very high, you will find it difficult to defend them from the nipping of Cattle, and from the *Scions* being broke out of the *stock* by some casualty or other, to which they are more exposed in fields that lie common to Cattle, than Nurseries that are inclosed.

VII. By Graffing old Crab-trees.

Sect. 9. The last way I shall speak of, is that which is most used in the *planting* Countries, and that is, by *graffing* such *Crab-trees*, as grow in the *hedges*, or grounds, and this is the speediest way to have *fruit*; because the big trees have bodies already, and in *four* or *five* years time (well ordered) will have good tops to bear; and if you *graff* small *stocks* in your ground that have grown of their own accord there, and fence them, they will speedily bring on *graffs*, being so well rooted.

A mischief used herein.

I have seen many cut off the tops of old *Crab-trees* and *Apple-trees*, and *graff* the *body* or *trunk*, but the *Scions* could never cover the heads of those *stocks*, and by that time the top was a little grown up, the body was ready to perish with rottenness.

The

The beſt way for big *Crab-trees* (or if you would change the kind of any *Fruit-trees*) is to *graff* them in the *boughs*, where they are not bigger than a mans arm, making uſe of none but thoſe that grow handſome, at convenient diſtance one from another, cutting off the others ſmooth and even, cloſe to the body of the tree. Neceſſary directions.

To do this, that Winter that you *cut*, or *plaſh* a *hedge*, order the work-men to trim up, but not to lop or top the *Crab-trees*, unleſs it be the tops of the *boughs*, half a yard or more above the place you intend to graff them at, and then in *March* following, ſaw off the *heads* at proper places, and graff them.

Many are for *graffing* theſe in the *cleft*, becauſe they think the *Scion* hath better hold, and will not be ſo ſubject to be broke out by the wind, as thoſe graffed in the *bark*; but I have ſeen thoſe in the *cleft* broke out by the wind, neither could I ever find that the wood of the *Scion* in the *cleft*, did ever cement with the wood of the *Stock*, but only on the out-ſide as the others do: And thoſe in the *cleft* are not ſo apt to grow all of them, nor to make ſo great a growth as thoſe in the *bark*; which with a little warineſs may Of graffing theſe in the Cleft.

In the Bark.

may be preſerved from danger of *wind*, and full as much care muſt be had about thoſe grafted in the cleft, if you will preſerve them *all* from the ſame prejudice.

One chief reaſon of the winds breaking thoſe in the bark, is their luxurious growth, which they are more ſubject to than thoſe in the *cleft*, but I could always wiſh that to be their crime, and be willing to be at the trouble of picking off the *leaves*, or tying them at and a little above the place they are grafted at with a hay rope, to prevent their injury by the wind.

Difference to be obſerved.

I have been uſed to obſerve the following difference in *graffing* theſe great boughs from all the forementioned varieties of *graffing*, and look upon it as a thing well worthy to be taken notice of and obſerved.

In ſlitting the bark.

When you have prepared the *Scion*, as you are directed to do, when you *graff* in the bark, apply it to the place you deſign to put it in, and *ſlit* the *bark* of the *bough* through, on both ſides the *Scion* cloſe to it, beginning at the top of the *bough*, and not carrying the *ſlits* much above half the length of the *ſlope* of the *Scion*, ſeparate that little portion of

of the bark between the two *ſlits*, from the wood, with your Inſtrument, thruſting it a little lower than the *ſlits*, to let in the *Scion* as far as it is ſloped, and then ſtick the *Scion* in, having firſt taken off from the edges of the *Scion* any unevenneſs (not cutting through the bark) that all may the better fit together; and you may put in *two*, *three*, or *four Scions* in every head, having reſpect to the bigneſs of it; or you may in the biggeſt put in two *Scions* in the *cleft*, and two others in the *bark*, doing one of the latter on the *Weſt*-ſide of it, for then the *wind* blowing it towards the head, is not ſo apt to break it out, as if it drave it from the head; bind the heads, and *clay* them as you heard before, and continue ſo to do yearly till the heads are almoſt covered.

Of preſerving them from injuries.

At the *firſt claying*, ſtick in *feathers* or long *eſcures*, to prevent birds lighting on the *Scions*.

In *July* following (whether you *graff* theſe big ſtocks in the *cleft* or *bark*) pick off moſt of the leaves of the *Scions*, and cut off ſuch ſprigs, as growing inward will make the head thick, and all *ſtraggleing out boughs*, that the wind may not have ſo much force upon them, to break the *branches* out of the ſtocks.

Cut

Of pruning the Stock.

Cut off alſo ſome of the biggeſt ſhoots the *Crab-tree* puts forth of its own kind; but for the firſt three years you muſt not cut off all, leſt the Tree not having liberty to vent all the ſap that cometh up, ſurfeit and die, the ſmall *graffs* not being able to receive near ſo much ſap, as the old top did the year before.

Thus many Country-men when they take off the whole head of an old *Oak*, have ſometimes found it die; and therefore in ſome Countries they leave one *big bough* to grow for one year, to draw up the ſap, (as they term it) whereas it is indeed that the ſap may have liberty to vent it ſelf; for Trees that have a thick bark, as *old Oaks* have, when all the ſmall *boughs* are cut off, are long in putting forth *branches*; and difficultly at laſt put forth ſo many, as will ſpend the ſap which comes up the Tree in ſome proportion, to what it did the year before, when the whole top was on; which ſap being chiefly in the greateſt channels, betwixt or near the *bark* and outſide of the body of the Tree, and not being *vented*, is either dryed or conſumed by the heat of the Sun, or putrefies for want of that *continual motion* that is in it, when it hath vent,

vent, that ſeveral trees die of this diſeaſe; and when trees die this way, the *bark* will drop off from the body of them ſooner by ſome years than otherwiſe.

Hence it is that you may kill a Tree, by lopping off the whole *top* in the *Summer* time, or ſo much of it, that the remaining *boughs* cannot receive all the ſap, but lieth choakt up for want of iſſue.

The ſecond *Summer* you ought to bind ſome *hay-ropes* about the lower part of the *Scions*; I have not ſeen need of repeating this the third *Summer*, but if done it will the more certainly ſecure them from breaking by the wind.

And thus I have ended what I had to ſay of *Field-planting*, and have been the more large in it, becauſe I have not ſeen it any where elſe taught without much imperfection, and many defects; and indeed not much more than mentioned, rather than treated of.

CHAP.

CHAP. XII.

Of the annoyances about Fruit-trees, and of some mistakes in Planting *and* Ordering *them.*

Of Moss and Canker.

SECT. 1. The nature of the *soil* is the chief cause of *Moss* and *Canker*, and therefore without altering the *one* you can scarce prevent the other; However you may scrape or with a *hair-cloth* rub the *moss* off, after rain, or (as some say) burn it with a bottle of straw under the Tree.

All *Canker*, *filth*, and *worms* must be picked clean off, and bind some clay well mixt with *hay* about the *canker'd* place: If the Tree grow but poorly, which is for the most part caused by the ill temper of the *soil*, open the ground about the *roots*, and put in some *manure* proper to cure it.

Bark bound.

Slitting the *bark* is an excellent additional help to most of the foresaid evils, and also for *bark-binding*, some advise that the *bark* be cut according to the *grain* of it, as in *Apple-trees*, *Pear-trees*, &c. *straight* down; in *Cherries*, &c. *round* about the Trees.

But

But I have found in the ſame land, ſome kinds of *Fruit-trees* very ſubject to ſome of theſe *evils*; and others proſper very well; when once you diſcover this, (becauſe it's utterly in vain to make ground and trees, of different *genius* agree together) you muſt make it your buſineſs by degrees, to change your Trees, till you have left none againſt which your *ſoil* beareth ſuch an implacable hatred, and furniſh it with ſuch as will flouriſh, and be fruitful. Some Trees proſper where others will not.

If any of your Trees are *galled*, by being bound to *ſtakes*, or by *thorns*, or otherwiſe, lay ſome *clay* upon the gall'd place and wrap *hay-bands* about them. Bark galled.

Big *Plants* alſo, that upon their removal have had their tops cut off, are apt to die from the place they were cut off at, to the next *ſprig*, or *branch* upon them; theſe dead parts ought to be cut off cloſe to the next good *twig* or *ſhoot*, and covered with *clay*, as in *graffing*, that the head may be well grown over, by ſuch *twig* or *ſhoot*, and the wet prevented of getting into the *pith*, to damage the Tree. Dead tops.

Sect. 2. *Hares* and *Rabbets* are very miſchievous to *Nurſeries*, and young *Orchards*, by *peeling* off the *bark* of the *Plants*: If your fence be a wall, or cloſe Hares and Coneys.

pale, or water, there's little danger of them; but becauſe ſuch fences about *Orchards* are rare, and no other can keep them out, ſome expedient muſt be made uſe of.

Hay ropes. Some have uſed *Hay-ropes*, bound about the Tree, from the ground to a ſufficient height; but this were endleſs in a *Nurſery*, it may be done in an *Orchard*; but there are other ways to be preferred before it.

Tar. Others therefore *dawb* the bodies of the trees over with *Tar*, which being uſed alone, endangers the life of very young *Plants*, and extreamly hardens the *bark*, and otherwiſe hurts them, which evil is prevented by mixing the

Tar and Greaſe. *Tar* with any kind of Greaſe, and boiling them on a fire, ſo as both may incorporate, then with a bruſh, or little broom, daub over the body of the Tree, as high as *Hare* or *Rabbet* can reach; and if this be done in *November*, it will preſerve the *Trees* for that whole year, with that once doing, it being the *winter time* only that they will feed upon the *bark*.

Greaſe. Some uſe Greaſe alone, and then it may require to be laid on *twice* in a Winter.

Some

Some thin ſtuff out of a *Houſe of Office*, or the thick tempered with Water, and bruſh,d on once in a Winter hath been often uſed with good ſucceſs. Or the *White-waſh* which Plaſterers white Houſes with, done once a Year over the Trees with a Bruſh, preſerves them from *Hares*, *Rabbits*, or *Deer*. Man's dung.

Sect. 3. If you find *Piſmires* or *Ants* breed about, or near the *roots* of any of your Trees, caſt away the Earth they lodge in, and ſupply its place with ſome *ſtiff clay*; if they breed diſtant in ſeveral places, ſome direct to daub the Tree about with *Tar*, that their Feet may be taken in it; but you heard already that's prejudicial to young Trees; but if they peſter you extreamly, and your Tree be young, you may bind a ſingle *liſt*, or *ſhread* of *Cloth* about it, and once a week (when *Buds* and *Bloſſoms* are putting forth, for that is the chief time they prejudice them) *daub* the *Cloth* over with *Tar*. Piſmires.

Sect. 4. *Moles* are to be kill'd, eſpecially in Seed-plots and Nurſeries; Spring-traps, or Box-traps are beſt to deſtroy them, not eaſily deſcrib'd, but are now known almoſt generally. Moles.

Water-Rats. I have heard that *Water-Rats* will ſpoil a whole *Nurſery*, getting through *Mole-holes*; and barking or eating the young *Roots*: I found ſeveral Roots ſo ſerved; and it being near a *Fiſh-pond*, I ſuſpected it was done by them; but finding alſo a *Snake* in a hole among the Roots, I knew not whether that might not be the Enemy.

Snakes.

Eſts, or Askers. *Eſts*, or (as ſome call them) *Askers*, are alſo ſaid to be pernicious to Trees; but theſe three laſt accidents are ſo rare and inconſiderable, that it's needleſs to labour much about Remedies againſt them, only as men find them to deſtroy them.

Blaſtings, Caterpillars. *Sect.* 5. The greateſt prejudice to *fruit*, is by *blaſtings*, *froſts* immediately ſucceeding rain, *Caterpillars*, or *black Flies*, that eat up *buds*, *leaves*, and *bloſſoms*: There's one way uſed to help in all theſe caſes, for *Orchard-fruit*; but I know not how it ſhould be uſeful for any but the laſt two, for which I dare commend it: And that is, that when in the Spring you perceive theſe *Caterpillars*, or *Flies* appear, make fires of ſomething that will ſmoak, ſo near the *Orchard*, and in ſuch places that the wind may carry the *ſmoak* as much through the Trees as may be. A thing frequently uſed is *Hemp-*

Smoak.

ſheaves,

ſheaves, (as it's called) being the ſtalk of the *Hemp*, when the *tow* is ſeparated from it, and its certainly very good; but bad *Chaff*, *wet ſtraw*, or *moldy Hay*, or any thing of that nature may ſerve turn.

Snails are pernicious to *Wall-fruit*, therefore deſtroy as many of them as you can, when they are beſt to be diſcovered, which is early in the morning. Snails.

And to preſerve your *Wall-fruit* from *blaſting winds* and *Froſts*; it will be neceſſary to cover them in the nights, and cold days by hanging before them *Matts* or *Blankets*: ſome ſtick *branches* of *broom* before the *bloſſoms* and young tender *fruit*. Cover Wall-fruit.

To preſerve *ripe fruit* from *birds*, ſpread an old *Net*, before the *Wall-fruit*, or upon the *Dwarf-trees*. Birds.

Sect. 6. I have endeavour'd to direct the Reader by true Rules, which if obſerved, he would not fall into thoſe vulgar Errors which are frequent in practice; but becauſe for want of warning, ſome people may continue in them, thinking they have a further knowledge or better Judgment, I ſhall endeavour to refute thoſe I have moſt taken notice off in uſe.

1. Some ſet *Trees* too deep, and plead for it, that otherwiſe the Tree may be in danger of dying, if the next Summer prove very hot: But to prevent that hazard it's better to raiſe Earth about it, and cover it with Dung, Fearn, or Straw, and in the Summer with the Graſs mowed from Graſs-plots, and ſet it not too deep whereby the Tree may put forth its Roots in the upper Turf, which is generally the beſt Land in all Ground. For in ſome Land a deep hole will draw in Water in the Winter, which ſtanding under and about the Roots, may chill and ſtarve them; other Lands in the bottom are *Rocky*, have a *Fox-bent*, *Cat-brain*, or *ſtiff Clay*, and *binding Gravel*, unfit for Trees to root in, and yet may have that depth of Earth above it, that ſome *Fruit-trees* being ſet light, may proſper reaſonably well.

2. Others for curioſity uſe graffing ſeveral kinds of Fruit on one Stock, which hath often this Evil, that the one kind (being of ſwifter growth than the other) overtops and keeps under its fellow. But if a Man have a few Trees in a ſecure place, he may graff two or three ſorts on one Head of choice Summer

mer Fruit, whereof he is content with a little Fruit of each kind for eating only; and by pruning he may make them grow ſomewhat equal.

3. Some out of curioſity (inſtead of *Clay*) when they graff *Trees*, cover the Heads of the Stocks with *Lime* mix'd with Hair; others with *Bees-wax* or ſome ſuch things compounded; the firſt of which groweth ſo hard that the Stock cannot grow to cover, nor the *Scion* enlarge it ſelf as it would, and the Lime kills often Stock and all, as will ſalt Clay, ſuch as is uſed on Drinking-Veſſels; the latter is either melted by the heat of the Sun in Summer, and runs off the Stock, and being thin, the heat of the Sun hardens the Sap which the Stock puts up to a Cruſt, that it groweth not to bark or wood, as it ſhould do; and if it be compounded of ſo hard a ſubſtance that it melteth not, it hath the like effect as the Lime: So that upon tryal, there is nothing better than good Clay mix'd with long Hay, and laid on ſomewhat thick, for that keeps it from the heat of the Sun, as well as too much wet, and with Hay it will keep on much longer than otherwiſe.

4. Many neglect keeping the Heads of Stocks clay'd after the first time when they are grafted, but it's very necessary to do it till the Stock be near covered, for it hastens it in covering, whereby the *Scions* grow faster, and wet is prevented from perishing the Stock.

5. Another Evil is, when Men set well grown Trees, that they must cut off the Head where it may be an inch over; they consider not to cut it at a Branch, and so the top often dieth a little at the Head; whereas if they did cut it off a little sloap at a Branch or small Sprig, and put Clay thereon, as in grafting, that Branch would cover the top, and keep the Heart sound. If you do it not at the setting of the Tree, then the Year after, when it hath put forth Branches, cut off the top sloap-wise, where it is alive, at the uppermost Branch you would preserve, and then clay it: You will find advantage in the growth of the top and soundness of the body of the Tree.

6. In pruning big Branches of any Tree, do it in *March*, and cut it not so close to the Body as to hurt it, nor yet so long that it be a Stump, but leave it highest in the middle, for then it will

not have ſo deep a hole in its growing to cover, which otherwiſe it's apt to have, and to hold the wet. This pruning can be no ways ſo well done as with ſuch a broad Chiſſel as I have deſcribed.

7. The firſt Summer after you have ſet a Tree, ſome ſet Shoots grow out near the Butt, and in ſeveral places on the Body, though ſo low that they never intend they ſhall continue. Theſe had beſt be cut off at the firſt ſpringing out, that they rob not the top of Sap.

If you have any high Standards, ſuch as are proper to be planted in Fields, or Foreſt Trees in Avenues, it will be neceſſary to have ſuch another Chiſſel; but inſtead of an Iron handle let it be made with a Socket, which fix on a Staff about two or three yards long, and let it have Edges likewiſe on the lower part on each ſide the Socket; with this you may, as you walk about your Trees, cut off ſuch young Shoots as grow out of the hands reach, and yet ſuch as you would not have continue, firſt cutting them upwards, and then with the other Edge cutting downwards the little Tippet left on the upper

per ſide, that it be ſmooth, and even to the Body.

8. I have known ſome Country Gardiners in pruning Wall-Fruit-trees yearly cut off the young Shoots or Branches that grew ſide-ward, as well as outward, from the Elder-wood, and leave the Wall almoſt bare; whereas it's thoſe young Shoots chiefly that bear Fruit the Year following: And therefore the better to inform the Reader in Pruning, it will be neceſſary to ſhew what Years Branches bear Fruit in each kind, or in the moſt common ſort of Fruit-trees.

1. *Vines* and *Shrubs*, as *Gooſeberries*, *Currans*, &c. bear Fruit for the moſt part on the Branches they put forth the ſame Year; ſo that in pruning theſe you may cut off much of the *Shoots* of the foregoing Year, and old *Wood*, as you ſee occaſion, and there will be the more Sap to put forth freſh ones the Year after, provided you leave plenty of Buds for them to put forth at, and with this Caution, that ſuch as grow very luxurious in Wood are not apt to bear, and there the more you cut off, the more they will run into the ſame Evil.

2. *Stone*

2. *Stone Fruit-trees*, generally bear on the *Branches* of the foregoing Year, therefore leave a ſufficient number of them.

3. *Apple* and *Pear-trees* bear Fruit on the *Branches* that are of two years growth before the bearing year.

And thus you ſhall find it for the moſt part; and although *Fruit* may often in all theſe ſorts ſeem to be on older Wood than I mention, yet if you ſearch into it you will find (where it ſeems ſo) that it grows on ſome ſhort Stalk put forth as near (as can be judged) as I have ſet it down.

You will therefore find it often neceſſary to practice the direction formerly given in this Book of taking off ſome of the old Wood of Trees, *Chap.* 8. *Sect.* 7. And when your Trees are young let them not fill the Wall ſo thick as many Trees are apt to do, otherwiſe you will find many will not bear well young, and when they grow bigger you muſt cut them thinner, which will be worſe for the Tree.

Another Evil is common in ſuffering too much Fruit to grow upon Trees (eſpecially Wall-Trees) wherefore if it be ſo, pluck off ſome where they ſtand

in Cluſters, Green *Apricocks* will ſerve for Tarts.

Theſe foregoing Obſervations may ſeem trivial and of ſmall concern; but you will find a due obſervation of them will conduce much to the health and welfare of your Trees and Fruit.

CHAP. XIII.

Some particular Rules about ſome kinds of Fruit-trees beſides the general Rules already mentioned.

Of Vines.

SECT. 1. *Grapes* ſeldom or never ripen well in this *Iſle.* without help of Art and Induſtry, to which purpoſe take theſe directions.

1. To *plant* ſuch as ripen ſooneſt in the Year, that they may have as much of the *ſummer* heat at *ripening time* as may be.

2. Let the Wall you plant them againſt be a full *South*, or but a little inclining to the *Eaſt*; or if you have a *half-round*, or corner in a Wall, or the back of

a brick Chimney, make uſe of ſuch places for them.

Vines will proſper well againſt a high Wall, yet that is not altogether ſo neceſſary but that low Walls may ſerve turn, and the higher may be reſerved for ſuch *Fruit-trees* as will not do well without them: That of a *Tarras-walk* may do well for *Vines*, and the *Gravel-walk* under the *Wall* will mightily encreaſe the heat about them. Of low Walls.

If you plant any *Trees* againſt your *Dwelling-houſe wall*, there may be ſome narrow places between two Windows, or the like, where other *Fruit-trees* have not room to ſpread: A Vine may grow up there, and above thoſe narrow places enlarge it ſelf where ever it meets with room. Narrow places in Walls.

You may alſo plant a *Vine* betwixt every *fruit-tree* that groweth againſt your *hotteſt walls*, and let it ſpread a little in the *Summer* time into the *Fruit-trees* on either ſide eſpecially if the *fruit* of ſuch Trees uſe to be early ripe, or that they bear little Fruit, or have not been ſo long ſet as to have covered the Wall. And though ſuch *Vines* cannot extend themſelves to that bigneſs, as thoſe planted where they have more room; Betwixt Fruit trees.

yet

yet by this means you will make advantage of ſuch portions of your Wall, as otherwiſe you could have had little benefit from.

Proper Soil, *Sect.* 2. The beſt ground for them is that which is *rich* and *dry*, inclinable to *ſtony* or *gravel*, ſo it bind not; the beſt Dung to fatten the Earth they grow in is Horſe or Sheeps-dung: Make bare the *Roots* in the beginning of Winter, and throw in plenty of the ſame Dung moſt Winters.

Way of propagating. The beſt way of propagating of them is, in *November* to lay a Branch of that Years growth into the Earth, under the old Tree, without cutting it off, lay as many *joynts* or *buds* in the Farth as you can, leaving but one or two out; for it puts forth its *roots* chiefly at the *joynts* at a Years end, or in the *February come-twelve-month*, cut it off from the old one, and plant it where you deſign it ſhould grow; lay it in the Earth in the ſame poſture it lay in before, and alſo lay ſome of the *Buds* of the *new wood*, that grew out ſince it was firſt laid down, that it may gain the more *Roots*, leaving out of the ground again not above one or *two Buds*.

You

You may chance to have Suckers of an old Vine which will be ſure to grow. Suckers.

Or you may take *Cuttings* of *Vine-branches* of that Years growth, and ſet them in good *warm looſe* Land, and many will grow; if it be in the place you intend they ſhall always ſtand in, next *year* lay down a part of that which hath grown out, to root alſo, or elſe upon removal lay in the new growth all but a *bud* or two, with that part which is already rooted: If it have made but ſmall growth the firſt *year*, lay part of the ſecond *years* growth in the ground, it will more advantage them by helping them to good *roots*, than the loſs of a *year* or two's growth in the top will amount to. Cuttings.

If you have an old *Vine*, that beareth not well, lay down in *February*, or *March* ſome of the ſtrongeſt *branches* of the foregoing *year*, (that grow low) in the *mold* under the old Tree, without cutting them off, leaving out of the ground a *bud* or two to grow, and your *wall* will quickly be furniſhed with new, and freſh *branches*; ſo that by degrees you may cut off many of the old *branches* of the Vine; for though one Vine may cover Cure an old Vine.

cover abundance of walling, yet three or four *roots* in that compaſs will ſtrengthen it the more to bear.

Of Pruning. *Sect.* 3. As *Vines* ſtand in more need of *pruning* than other *Fruit-Trees*, ſo great care is to be taken in the performing of it; when you have ſet your *Vine*, as you have been before directed, ſo that not above two *buds* of it remain above ground, you are to nail up ſuch *branches* as grow forth up to the Wall, till it have overſpread as much Wall as you deſign for it, ſuffering not above two *branches* to grow from the ground, and ſnipping *yearly* the *tops* of the *branches* a conſiderable length, as far as they are weak and tender, and alſo all ſmall *poor ones*, cloſe to the body, unleſs the well-liking *branches* be but few, and then you may leave the loweſt *bud* of ſome of them to grow forth next Year; and this you are to do towards the end of *February*, or beginning of *March yearly*.

When your *Vine* comes to bear, you are to uſe your knife about it three times in the Year.

Time. 1. In *February*, or the beginning of *March* you are to prune off part of the foregoing Years *ſhoots*, where they are too thick, cloſe to the old *wood*. As it en-

enriches your *Vine* to keep it thin of *branches*, ſo you muſt take care it be well ſtor'd with *buds* againſt the ſpring following, for it bears *Grapes* only on the *new ſhoots* of every Year; and in cutting off theſe *Branches*, you muſt take care your Wall continue furniſhed with ſuch Branches as may be ſpread upon the Wall regularly and decently, not thick in one place and thin in another, nor croſſing one another.

2. The next time to take off Superfluities from your *Vine*, is about *Midſummer*, when the *Grapes* are knit, clip off then the end of the *branches* that have *Grapes* on them, a little above the *Grapes*, that they may have the more nouriſhment, and keep them nail'd to the Wall, as alſo barren Branches where the Wall needs them.

3. The laſt time of cutting is in *Auguſt*, for then, becauſe *leaves* and *branches* may be ſo thick as to keep the heat of the Sun from the *Grapes*, which is neceſſary to ripen them, you may pluck off ſome of the leaves, and cut off ſome of the *branches* to open way for the *Sun* to come to them.

There's one thing to be obſerved in the *pruning* theſe peculiar to it, That Place.

whereas others are cut at a *Bud*, the branches of theſe muſt be cut off near the midſt, betwixt two *Buds*, and that not later in the year, than the beginning of *March*, for afterward the *ſap* or *juice* will run out, and the *Vine* will be much weakned by *bleeding*: You will by that time alſo ſee what the *Froſt* of the *Winter* foregoing hath kill'd, which muſt be taken all away.

Bleed.

Froſts. If Froſts come before any *Grapes* are ripe defend them in the night time with *Tilts* or *Mats*.

Vineyard. *Sect.* 4. It's ſcarce worth while to have a Vineyard here in *England*; there having been many, and now ſo few, affords a ſtrong Argument to prove that attempts of that kind never turn to account: The uſage of the *People* in ſuch caſes being of no ſmall Authority.

It's poſſible that perſons that have very warm ground, well ſituated, with care and induſtry, may ſome Years have good *Grapes* without the benefit of a Wall. I have ſeen, not far from *Briſtol*, in a Year that was very favourable to them, Grapes ripen well without ſuch help.

Fig tree. *Sect.* 5. *Fig-trees* ought to be *planted* in a very warm place, againſt a Wall, defended

ſended from the *North*, and *North-Eaſt* wind; every old Tree will yield plenty of *ſuckers*, fit to raiſe new ones.

If you plant ſome ſmall *Fig-trees* in Pots or large Boxes, as you do *Orange-Trees*, and put them in ſome Houſe (from the beginning of *November* until *April*) without any Fire or Curioſity, you may have *early Figs*, and (it may be) a *latter crop*. When you take them out of the Houſe, ſet them under a *South wall*; and if the Nights are froſty, take them in for three or four Nights; water them at firſt ſetting out, and weekly after, and oftner when the *Figs* are toward ripening.

Sect. 6. You have ſeen the way of raiſing *Quince-trees*, in the Chapter of *Dwarfs*; I ſhall here only add, that if you have a part of a Tree, that groweth ſo low, that you can bring it to the ground, either by plaſhing or otherwiſe, you may do it in the beginning of Winter, and cover it all with Earth but the ends of the Branches, and let it continue ſo one Year, and then uncover it, and every Twig will have put forth *Roots* in the Earth, which being cut off and *tranſplanted*, will make you a *Tree*. Quince-tree.

Layers. And this is the way of propagating of *Fruit-trees* by *layers*; and you may here take notice, that all such Trees that may be propagated by *Cuttings*, may be raised likewise by *Layers*, and this way takes more sure than by *Cuttings*.

Soil. *Quince-trees* delight in a *moist rich* Land; near some gutter that carries away the soke or wash of a *Dunghil*, or *House*, is a place usually chosen for them, and is such as they like very well in.

Medlar-tree. *Sect.* 7. *Medlars* are raised by *grafting* on the *Pear-tree*, *Crab-tree*, *White-thorn* or *Service-tree*; the last is the best, and the *White-thorn* by much the worst.

Service-tree. You may get *Plants* of *Services* out of woods, where they grow wild; from which you may raise *Service-trees*, or *stocks* for *Medlars*, or if you can get none such, *graff* the *Service* on the *Wickey-berry-tree*, or the *White-thorn*.

Wallnut-tree. *Sect.* 8. *Walnut-trees* are much *Planted* of late, and are very proper for *walks* in grounds and a good fence to shelter Buildings and *Orchards*; the *fruit* is useful, and very profitable if you can spare any to sell, or for Oyl for Painters if the market should be glutted with them

them; and the Timber ſo excellent for *Tables*, *Chairs*, and *Stools*, *Stocking* of *Guns*, &c. that it goes off well, and takes a good price.

They are raiſed by *Nuts*, gathered from the ſame Trees, if you can let them have their green husks on them, for the betterneſs thereof will defend the *kernels* from being eaten by worms before they ſpring up; but you muſt chiefly reſpect their full ripeneſs, at which time they are apt to ſhed their *husks*: You may either ſet them as they come immediately from the Tree, or keep them in the ſand till *March*. Way of raiſing.

Set them in *rich*, *dry*, *warm Land*, and when you *tranſplant* them, ſet them as ſpeedily as you can after taking up, and cut off little of the *roots*, but by no means the *tap* or *heart root*, (as in other Trees) and top them not at all if you can help it; but if the Tree be ſo *tall*, *crooked*, or *dead* at the *top* before removal, that you muſt put a *peg*, or ſome ſoft *wax* into the *pith-hole*, or cover the cut with *clay*, that wet may not get in, and make it die downward, becauſe theſe Trees have a large pith; when you do cut off the top, do it, if you can at a *ſide branch* or *ſprig*, and that will ſpread under the *clay*, and Soil and tranſplanting.

cover the *tops* again. You may cut off many *ſide branches* when you *tranſplant* them.

Fencing. No Cattle will *brouze* or *peel* them, by reaſon of their bitterneſs; ſo that a fence that will preſerve them from Cattles rubbing againſt them is ſufficient.

Soil. They will grow well in a *looſe*, *gravelly*, *ſtony*, or almoſt *rocky* land, and beſt where they are at firſt ſet without being removed; to which end you may

Plant without removal. in ſuch a *hillock* as is ſpoken off in *Field-planting* (but not ſo broad nor ſo high) ſet *three*, or *four Nuts*, or more, and about two years after they are grown up, pluck up gently all but one of them, that is likely to make the beſt *Tree*.

Cheſnut-trees. I have ſeen *Cheſnut-trees* grow in *England* to be very large, and bear good *Fruit* on a *hot*, *dry land*. They are excellent for a defence from winds, and better than *Wallnut-trees*. It's not good to top them, as ſome do when they *tranſplant* them.

Way of raiſing. They are raiſed by ſetting *Nuts*, that are come freſh from beyond Sea, at the end of the year; or from good *Nuts* well ripened in *England*, which you may ſet with the *husks* on, when they are fallen, or rather kept in Sand till the great

great Frosts are over: These trees grow best likewise without being ever removed; some say they will grow well being *graffed* upon *Oakes*, *Beech*, or *Wallnut-trees*.

The *Horse-Chesnut* may be rais'd from the Fruit or growth of Layers, and makes delicate Trees for *Avenues*.

Filbeards and *Hazle-Nuts*, worthy to be *planted* in *Orchards*, or *Gardens*, are raised from Nuts set in the Earth, or *Suckers* from the roots of an old Tree, or may be *graffed* on the common *Hazle-Nut*. Filbeard. Nuts.

Sect. 9. *Mulberry-trees* are raised by *Suckers*, *Layers*, or *Cuttings*.

Goosberries, *Currans*, *Barberries*, and *Rasberries* are raised by *Suckers*, of which you may have plenty about the roots of old Trees. Goosberries, Currans, Barberries, and Rasberries.

When they have grown some years, suffer not many *suckers* to grow about them, nor cut the tops to a round close bush, as many *Gardiners* do; whereby they grow so thick, that they neither *bear* nor *ripen* their *Fruit* so well as if they grew *taller* and *thinner*.

CHAP. XIV.

Of the ſeveral kinds of Fruits.

Of choice of Fruit-trees.

SECT. 1. As to *Wall-fruit* and *Dwarfs*, if the *Planter* have convenient room, he ought not only to have *one*, or *two* Trees of each good kind, but alſo ſome of that which is but indifferent, that is ripe, or will keep good at ſuch time, when better eating fruit is not to be had; and more of laſting winter fruit than of ſummer or any one ſort.

Of Peaches.

Sect. 2. Of *Peaches* the firſt and ſooneſt ripe is the *White-Nutmeg*, next to that the *Red-Nutmeg*, next to that the *Troy* which is ripe almoſt aſſoon and a better Fruit; next ripe are,

The { *Perſian*, *Early Newington*, *Magdalen red* and *White*, *Sion*, *Minion*, *Catharine* } Peach

Iſabella

	Iſabella	
	Savoy	
	Burdeaux	
	Old Newington	
	Violet-Muſcat	
The	*Modena*	Peach
	Morello	
	Rumbullian	
	Scarlet	
	Bellice	
	Royal	

Theſe are accounted excellent kinds of *Peaches*, and there are many other good *ſorts* beſides theſe; and ſo there are of *Apples*, *Pears*, *&c.* more than I have mentioned in this tract; for I think it not neceſſary to trouble either the *Reader*, or my ſelf with them here, but only to mention ſome *choice Fruit* of every kind, and leave every one to pleaſe his own fancy, and ſtore himſelf with them, or others, as he approves them and hath convenience ſo to do.

Sect. 3.

Of Nectarines.

Sect. 3. The beſt *Nectarines*, are

The { *Red-Roman*, *Murry*, *Tawny*, *Paper-white* } *Nectarines.*

There are others though worſe ſorts, as;

The { *Yellow*, *Painted*, *Ruſſet*, *Red* } *Nectarines.*

The *Algiers* is commended by ſome, becauſe it parts eaſily from the *Stone*.

Of Apricocks.

Sect. 4. Amongſt *Apricocks* the *Algier* and *Maſculine* are firſt ripe: The *Turkey* is much commended, ſo is the *Orange*; the *white Apricock* is alſo accounted better than the common, and the *Fulham Excellent*; the *Bruſſels* will ripen without the benefit of a Wall, either as Dwarf or Standard.

Of Plums.

Sect. 5. *Plums* to be preferred before others are as follow; The *red* and *blew Primordian* as being firſt ripe, though not ſo good Fruit as ſeveral following;

The

The next ripe,

The { *Morocco*, *Merabolen*, *Violet*, *Apricock*, *Barbary*, Black and Green *Damascene*, *Prunella*, *Queen Mother*, *Kings*, *Matchless*, *Black-Pear-Plum*, *Pescod*, *Bonum Magnum que*, *Cheston*, *Marbled*, *Imperial*, *Nutmeg*, *Turkey* } Plum

These you may set to a Wall, though most of them will bear well, being *Dwarfs* or *Standards* if you have not wall enough.

The *White-Pear-Plum*, *Prune*, *Damascens*, and *Verdock*, are good *Preserving Plums*.

The

The { *Muſcle* / *Wheat* / *Lammas* } Plum, { *Damaſcens* / *Michaelmas* / *Bullace* }

and ſeveral *courſe Plums* are raiſed by *Suckers*, without *graffing* or *inoculating*, and may be ſet in *Orchards*, *Hedges*, or any common places.

Of Cherries. *Sect.* 6. The *May Cherry* is firſt ripe, and ſhould have a good Wall to expedite its ripening; for though they are but ordinary *Fruit*, yet their earlineſs makes them a rarity. Next ripe are

The { *May Duke* / *Black Heart* / *Morocco* / *Egriot* / *Flanders* / *Red-Heart* / *Lukeward* / *Bleeding Heart* / *Spaniſh-black* / *Naples* / *Carnation* / *Amber* } Cherry.

The

The great bearing *Cherry* of *Millain*, and *Morella* are *blackiſh* when ripe and *blood-red* within, excellent to make *Cherry Wine*, affording a ſtrong and vinous liquor.

Theſe two laſt and the *Prince Royal* are good to Preſerve.

If you have not room upon your *Walls*, theſe will bear well in any warm place, *planted* as *ſtandards*.

Thoſe that you find put forth *ſmall twigs*, and have a *ſmall*, *dark*, *green leaf*, are eaſilieſt kept *Dwarf-trees*.

Sect. 7. The firſt ripe *Grapes* are the *ſmall Black*, or *Cluſter Grapes*, next the *Muskadine red* and *white*, the two ſorts of *Frontiniacks*. Of Grapes.

The { *Griffin Frontiniack*, *Claret Wine*, *Muſcat*, *Grape de Arbois*, *Raiſon of the Sun*, *Red Orleans*, *Burlet*, *Parſley* } Grape

Sect. 8. *Pears* are of very many kinds, and are much improved by being Planted againſt *walls*. In *France* they are accounted Of Pears.

counted among the beſt Fruit, and the beſt kinds do well deſerve it.

The *Summer* and *Winter Bon-Criſtien*, growing pendent, are fitter for a *wall*, than to be Planted of *Standards*: the *Winter* will keep till *May*, and is a very choice *Pear* in a good year for ripening fruit, and ought to have the beſt Wall.

Theſe Pears next following no one ought to be without, and he that hath but little ground needs no other. I ſhall mention them in order as they are eatable, not according to their goodneſs, for, among ſeveral, that might make a diſpute as tedious as the *French* King's Gard'ner hath done.

Windſor Summer *Bon-criſtien.*
Hambden's Burgamot.
Amadote, Common *Burgamot.*
Green Butter or *Bury Pear.*
Meſſire Jean, *Deadmans Pear.*
Virgulee, St. *Michael*
Winter Thorn, *Le Chaſſerye.*
The Craſſane, St. *Jermin.*
Winter Bon-Criſtien.
Double Blaſſom, *Le Bon-Gerſon.*

Moſt of theſe deſerve the beſt *South-wall*, and the *Winter* ſeldom ripen well with-

without it, The *Summer* may be Dwarfs.

Other Pears accounted good are

The { *Bury de Roy*, *Violet*, *Dove*, *Great Musk*, *Rouſellet*, *Great Soveraign*, *Blood*, *Green-field*, *Great Burgamot* } Pear.

Summer Pears.

Great Banquet, *Musk*, *Caſſiolet*, *Robine*, *Skinleſs Maudlin*.

Autumn.

Beſiderry, *Dean Pear* or *Doyence*, *Landſacks*, *Vine Pear*, *Ruſſelin*, *Sugar green Pear*.

Winter.

Ambret, *Bugis*, *Angoberts*, *Portales*, St. *Auguſtines*, *Lemon*, *Beſi de Caſſoy*.

Old

Old *English Pears* well known are

- *Hill*
- *Primating*
- White and Red *Geneting*
- *Green-Chiſſel*
- *Pearl*
- *Soveraign*
- *Orange*
- *Catharine*
- *Anthony*
- *Sugar*
- *Pimp*
- *Berry*
- *Popering*

The

- *Scarlet*
- *Prick*
- *Royal*
- *Nonſuch*
- *Kings*
- *Ladies-Buttock*
- *Muſcat*
- *Oak*
- *Virgin*
- *Ice*
- *Gaſcoin-Burgamot*
- *Winter Popering*
- *Little Dagobert*
- *Great Kir ville*
- *Long Burgamot*

Pear.

With

with divers others, each *Country* affording variety.

The *Slipper* and the *Lewis Pears* are good to dry.

In *Fields* you may ſet *Baking Pears*, and *Perry Pears*.

For Baking.

The { *Bon Gerſon*, *Norwich*, *Black Worceſter*, *Quince-pear*, *Biſhops*, *Arundel*, *Bell*, *Painted* } Pear.

Alſo *Wardens* of ſeveral ſorts very good.

For Perry.

The *Red* and *White Horſe Pear*, the *Long Land*. There are alſo divers other *Wild* or *Choak-Pears*, whereof the *Red*-coloured yield the ſtrongeſt *Liquors*. The *Bosbery*, and *Bareland Pears* are by much the beſt I have known or heard of: And the Tree of the firſt of theſe two kinds groweth to that bigneſs, that it will bear *fruit* to make *one*, *two*, or *three Hogſheads* of

Perry in one *year*: I could tell you ſeveral *ſtories*, to ſet forth its excellence when it's *two* or *three* years *old*. The *tree* will proſper on almoſt any baſe *Land*.

of Apples. *Sect.* 9. *Apples* are ſeldom planted againſt a *wall*: A man had beſt furniſh himſelf with the choiceſt of theſe following, for *Table-fruit*, by making them *Dwarfs* in his *Garden*, or *larger Trees* in a ſecure *Orchard*, being tempting Fruit, and ſome of them early ripe.

The { *Juniting*, *Flax*, *King*, *Margaret* or *Magdalen*, *Golden Ruſſeting*, *Spice*, *Summer Queening*, *Go no further*, *Royal*, *Golden Pippen*, *Good-Huſwife*, *Giant*, *Pomewater*, *Summer Pearmain*, *Belle et bonne* } Apple.

There

There are alſo ſome of ſpecial account in their reſpective Countries;

The
- *Stocken Apple* in *Herefordſhire.*
- *Darling* in *Cheſhire.*
- *Golden Rennating* in *Hartfordſhire*, &c.
- *Angels-bit* in *Worceſterſhire.*
- *Kirton Pippen* in ſome part of *Northamptonſhire.*
- *Harvy-Apple* in *Cambridgſhire.*

Theſe next following are good *Winter Apples*, or ſuch as may be *planted* in *Orchards.*

The
- *Winter-Pearmain*
- *Winter-Queening*
- *Quince-Apple*
- *Nonſuch*
- *John-Apple*
- *Leather-coat*
- *Winter-reed*
- *Golden Doucet*
- *Lones Pearmain*
- *Weſtbury*
- *Pome-Roy*
- *Lording*, hath little Core
- *July-Flower*
- *Pear-Apple*

} Apples

The { *Flower of Kent*, *Parsly*, *Winter-Chesnut*, *Maligar*, *Red-Fennel*, *Short-Tart*, *Russeting* } Apple.

There are divers kinds of *Pippens*, I have heard of *eighteen* several *sorts*, those of them I know are so good, I can scarcely tell which to prefer.

Of choice of Winter Apples.

In Planting *Winter-Fruit*, the best course is to Plant several *Trees* of some few of the *best kinds*, after you have found what sort prosper in your Soil best; for many sorts will be troublesome in the gathering, and keeping them severally when you have done.

Long lasting and *fair Apples* will adorn your *Table*, and yield most *profit*.

Of Cyder-fruit.

For *Cyder-Fruit* the *Redstrake*, and *Brombery-Crab* have the general preheminence, the last of which is not ready for grinding till almost *Christmas*.

The *Gennet Moil* was once accounted the best, and still many *Gentlemen* that are *Cyder-Masters* prefer it, and preserve it for their own drinking.

The

The *white* and *red Muſt-Apples* make a Cyder very *good*, to be drunk about *Chriſtmas* next following the Seaſon of making *Cyder*. The Tree is of *quick* and *large growth*, a good *bearer*, and *twelve* or *fourteen* Buſhel or Strikes of them will make a *Hogſhead* of *Cyder*.

The *Winter Queening* is not commonly uſed for *Cyder*, yet it yields a *ſtrong* and *vinous Liquor*, ſo that it hath been taken for a rich and ſtrong *White-wine*; but ſo *dry* a *fruit*, that near *twenty four* Buſhels will go to make one *Hogſhead*. The *fruit* muſt not be ground till very late in the year.

The *Golden Pippen* makes an *admirable Cyder*.

Pippens and *Pearmains* mixt, are much uſed, and *Pippens* alone, make a *ſtrong* and *wholeſome* Liquor.

Some are apt to object, That ſince *one* or *two* kinds of *Fruit* may be had very good for *Cyder*, what occaſion is there to Plant of ſo many ſorts? *Of planting ſeveral kinds.*

For anſwer, They will find it advantageous to have ſeveral ſorts of *Fruit* for *Cyder*, if they conſider;

1. One ſort of *Fruit-trees* may, and do bear one year, when another fails.

2. *Cyder* made of ſome kinds, will be

ready to drink ſooner than of others, and thereby you may have it ſucceſſively ready for your uſe. The *Muſt-Cyder* may be clear a month after making; The *Gennet Moil*, a quarter of a year after: The *Redſtrake*, near half a year after, though it's much improved by longer keeping.

3. You may make your *Cyder* with more eaſe, the *Fruits* you make it of ripening after one another.

4. Though ſome *Fruit* yield not ſo good *Cyder* as others; yet the Trees may be quicker of growth, bear more plentifully, and laſt longer than thoſe that yield better: And the *Palates* of men being various, ſome like one ſort, and ſome another, and ſo all may be pleaſed.

5. Some *Fruit-trees* agree with the *Soil* and *Climate* better than others, which you will not be able to know till you have made trial of ſeveral.

Of Quinces. *Sect.* 10. Of *Quinces* there are ſome ſorts, though not many, ſomewhat different from each other.

The *Portugal-Apple* and *Pear-Quince*, are held to be the beſt, and are the largeſt.

The *Barbary-Quince* is good, but ſmaller.

The

The *Lions* and *Brunſwick*, are alſo good Fruit.

The *Engliſh* is the moſt ſtony.

Sect. 11. There are ſeveral ſorts of *Walnuts*, ſome being *larger*, others *thinner ſhell'd* than the common, but differing ſo little one from another, that Men have not much minded giving them *names*. The largeſt ſort is uſually called the *French Walnut*. *Of Walnuts.*

The beſt *Cheſnuts* among us, are thoſe that come from beyond *Sea*; but of thoſe that grow with us, ſome are *larger* than others, without any difference worth obſervation. *Of Cheſnuts.*

There are two ſorts of *Filbeards*, diſtinguiſht by the colour of the skin of their *Kernels*; the one being *red*, and the other *white*. *Of Filbeards.*

There is another ſort call'd the *Filbeard* of *Conſtantinople*; the *leaves* and *fruit* of which, are bigger than either of the former.

And there is beſides theſe an excellent large plump *Nut*, that hath a very good *Kernel*, the beſt of which have a very thin *ſhell*.

Sect. 12. *Figs* are a Fruit that agree with *Engliſh Palates* and *Soils* much alike, there being few that affect them. Among *Of Figs.*

the ſeveral ſorts of them, there are *two* of chiefeſt note among us. The great *Blew Fig* which is moſt common, and the *Dwarf blew Fig*, that is ſooner ripe and better taſted.

Of Medlars. There are three or four ſorts of *Medlars*, the biggeſt ſort is beſt, without any *thorns* upon the branches, as the common hath: There is another kind alſo without *ſtones* in the *Fruit*.

Of Services. There are two ſorts of *Services*, one larger than the other, that groweth wild in the *wood*; but neither the ſorts of theſe, nor of *Medlars* are diſtinguiſhed by *Names*, and the *fruit* of both is not eatble till they are *rotten*.

Of Mulberries. *Sect.* 13. *Mulberries* are diſtinguiſht by their *colours*, for there are *black*, *red*, and *white*.

Of Gooſberries. There is ſome variety in *Goosberries* likewiſe; the beſt ſorts are the *Amber*, and great *Hedghog Goosberry*, which is *prickly*, but the other *ſmooth*, both of a *bright*, *yellow colour*, and the *white Holland Goosberry* which is *large* and *tranſparent*; there are likewiſe ſome that are of a *blew*, others of a *red*, and others of a *green colour*.

Of Currans The *white* and *red Currans* of the largeſt ſize, are the beſt ſorts of that kind of *Fruit*;

Fruit; the great *dark-red Dutch-Curran* is largeſt, and hath a ſweet reliſh; ſome perſons affect the *common black Curran.*

There's ſcarely any other difference found among *Rasberries*, but that ſome are *red*, and ſome *white.* *Of Raſberries.*

And the like difference is to be found among *Barberries*, but ſome are without *Stones.* *Of Barberries.*

CHAP.

CHAP. XV.

Of Gathering Fruit, and making ſeveral ſorts of Liquors of them.

Hurt not the Trees.

SECT. 1. In gathering of *Fruit*, be careful the *branches* of your Trees be not battered and broken.

How to gather Fruit for keeping.

Such as you deſign to keep any time, ought not to be *ſhaked* off the *Trees* becauſe of bruiſing; but picked off with your hands. Be ſure the Fruit you gather be throughly *ripe*; which you may know by its beginning to *drop*, or the *Kernels* turning *black*: Let the *weather* be *fair* and *dry* when you gather, and no *dew* upon the Trees. Lay up what you thus gather in a *cloſe*, but *ſweet room*, upon a *boarded-floor*, without any green *leaves*, or *ſticks* among them.

Of preſerving.

If you have ſome *Pears*, that are *choice* and *laſting*, wrap them up in *Paper*, and lay them one by one upon a *ſhelf*, or hang them up by the *ſtalks*, and keep out the *air* from them as much as you can.

As you find any in your heaps *rot*, pick them out; and in a ſharp *Froſt*, cover them with a *Straw Mat*.

In

In gathering *Cyder Fruit* you muſt be ſure to let them be well *ripe*; then let them be gently *ſhaken* down, and laid upon a *ſweet* and *dry floor*, in a heap, and there lye a *fortnight*. The *Red-ſtrake*, and harder *Apples* you may let lye longer, (that is) *three weeks* or a *month*; the longer they lye, the leſs *Cyder* indeed they will yield, but much the better, it being neceſſary to have them as *ripe* as may be, ſo that too many of them begin not to *rot*; ſome are for picking out the *rotten* ones before you grind them; others ſay a few *rotten Apples* do no hurt, but rather good, in helping the *Liquor* to *ferment*.

Sect. 2. And becauſe I am here ſpeaking of gathering *Fruit*, I ſhall give you the deſcription of a *Ladder*, convenient to be uſed both in *getting* the *fruit* off *young trees*, and *pruning* them, they not being ſtrong enough to bear an ordinary *Ladder* without harm. *of a Ladder.*

Take a Board like the *head* of a *joint-ſtool*, but thicker; let there be join'd to it a *Ladder* (of what length you judge convenient, having reſpect to the height of your Trees) with ſuch Irons as it may ply to and fro, and at the other end, let two feet of equal length with the

the *Ladder*, be put in ſo as they may ſtand wider at the bottom than the top. *See the Figure.*

Of an Engine or Mill for grinding fruit.

Sect. 3. Of many ſorts of Fruits may be made very noble and delicious liquors for drinking, by ſeparating the juice from the feculent parts of them, which is performed by Pounding, or Grinding them, by ſuch Inſtruments as were to be had: But lately hath been found out an Engine, incomparably more commodious for this Work, than any thing ever known before; many of which are already diſperſed throughout the Kingdom, made according to the firſt model; but they have lately received ſo vaſt an improvement, that they ſeem now quite another Invention, and to want nothing to their Perfection. The excellencies of it are, That it takes up ſo little room, no more than two yards ſquare: It grinds according to the bigneſs of it, from 50 to 20 Buſhel an hour, with the labour only of one Man, the feeding of it now being contrived with a little aſſiſtance of another. It performs the Work better than any thing elſe. And laſtly, It grinds all manner of Fruit with a litte alteration in ſetting of it.

Sect.

Sect. 4. Other *Authors* have given directions about making *Liquors*, of ſeveral ſorts of *Fruit*, but that he that hath this Book may not be troubled to ſeek for them any where elſe, and becauſe I can truly pretend to exactneſs in this particular, no leſs than (I believe) I have juſtly done in all that went before; and withal having guided the Reader in the way to get choice *Fruit*, before I take leave with him, I ſhall in the laſt place inſtruct him how to order it, and how to make uſe of it.

Of making Cyder.

In grinding, or pounding and preſſing their *Fruit*, every one may be ſafely left to the cuſtom or convenience of his Country, but the management of the *liquor* after it is preſſed out is of great importance; Thus therefore you muſt proceed, When your *Apples* are *ground*, or *pounded* ſufficiently, and the *liquor* preſt forth, ſtrain it immediately through a *ſieve*, and tun it up in a Hogſhead or Barrel, ſeaſoned and ſweet; fill it not up by two *gallons* at leaſt, and ſtop it up only with a looſe *ſtopper* for *two* or *three* days, and then ſtop it up cloſe with *clay* on the *top*, and put a *cork*, or ſome *ſtopper* in the *vent*-hole; but for a weeks time or more, you may once

once a day draw it forth a little, leſt it break the Veſſel, or force ſome other *vent*; then ſtop it cloſe up alſo, and ſo let it ſtand till you think it may be ſomething *clear*, and then pierce it to try how it fines; the *Summer Fruit* after a *Month*, the *Moil* after the firſt *Froſts*, the *Redſtrake* not till after *January*; other *Winter-fruit Cyder* about the ſame time.

Of fining Cyder by racking.

If your *Cyder* be not *fine* at the times aforementioned, try them again about a *month* after; and then if it be not fine, rack it off, as you would do *Wine*, ſetting another *veſſel* in a convenient place, that through a *pipe* of *Leather*, or a *Siphon*, or *Crane* of ſome *metal* or *glaſs* the *liquor* may run out of the one into the other without being expoſed to the *air*, which is a moſt material thing to take care of at the firſt preſſing, and at all times; the Spirits of *Cyder* being very apt to *evaporate*.

With Izinglaſs.

Some chooſe rather to fine their *Cyder* with *Water-glew* commonly call'd *Izinglaſs*, than by racking it, which is thus done. For a *Hogſhead* take about a quarter of a pound of *Izinglaſs* (and ſo proportionably for a greater or leſſer quantity) beat it thin upon an *Anvil*, or an *Iron-*

Iron-wedg or ſuch like thing, cut it in ſmall pieces and lay it in ſteep in a quart of *White Wine*, or ſome of the *liquor* you would fine, ſo it be not ſharp, but it diſſolves beſt in *White Wine*, let it lye therein all night, the next day keep it ſome time over a gentle fire, till you find it well diſſolv'd; then take a greater proportion of the *liquor* you intend to purify, after the proportion of one *gallon* to a *Hogſhead*, in which boil the diſſolved *Izinglaſs*, and caſt it in the whole maſs of *liquor*, ſtirring it well about, and leave the vent-hole for ſome time open: This will fine any kind of Liquor.

But the common and beſt way is that among *Vintners*, *&c.* that have frequent uſe for it: And it is to diſſolve a conſiderable quantity of *Izinglaſs* in *White Wine* without putting it on the fire, which it will do in about a months time and turn to a *jelly*, which they keep by them, and it will keep good a twelvemonth, and when they have occaſion to uſe it, remove the ſcum that will be on the top of it, and take what quantity will ſerve their turn out of it according to the proportion of a *quart* to a *Hogſhead*; and this with ſome of the *liquor* its to be put in, they beat to a froth, and

and mix it with more of the ſame *Liquor*, and then pour it into the *veſſel*, mixing it well together with a broom, and ſo leaving the work.

When it is very *fine*, either draw it out of the *veſſel* as you drink it, or which is better, *bottle* it; and take notice, after it is *fine*, the ſooner you draw it off the better, for change of weather oft alters it.

New Veſſel. If the *veſſel* you put it in be new, ſcald it with *hot water*, in which ſome of the *Muſt* or *Pouz* hath been boil'd.

Tainted Veſſel. If it be tainted take ſome unſlact *Lime* and put it in the *veſſel* with water, and *ſtopping* it well, *roll* it about a while.

2. Or *Pepper* a quarter of a pound to a *Hogſhead* pounded and boyled with water may help the ill ſavour.

Yet beſides thoſe *Operations*, let it be ſcalded firſt, and made as clean as may be from all dregs, and if after all, you uſe *Muſt* or *Pouz* of *Apples* (as is before directed for new *Veſſels*) it may compleat them, tho' ſome *Veſſels* may be ſo tainted, that there is no cure for them, but by taking off the *Head*, and expoſing the whole to the *Sun* and *Air* for a conſiderable time.

Wine

Wine Casks, if ſweet, are accounted proper to receive this *liquor.* Wine Casks.

If any one ſhall deſire a ſmall quantity of *Sider* extraordinary for its goodneſs, let him take the *liquor* that comes firſt from the *Muſt*, without much preſſing, and diſpoſe of what comes afterwards by it ſelf, or mix it with the juice of another grinding. Choice Sider.

Some have been ſo curious as to pick off the *Trees* the ripeſt *Apples*, and eſpecially thoſe that have had moſt of the Sun, and to make uſe of them by themſelves for choice Sider.

Sect. 5. *Perry* is made the very ſame way as *Sider*, only obſerve to let your *Pears* be very *ripe* before you grind them. And it's a thing adviſed by ſome, to mix *Crabs* among the *Pears* of weakeſt *juice* to mend the *liquor.* Of Perry.

Sect. 6. If you have plenty of *Rasberries* they will make delicious Wine, after this manner: Of Rasberry-Wine.

To every two *quarts* of *Rasberries*, put one *pound* of *fine white Sugar*; let them ſtand *two days* in an *earthen pot*, often ſtirring and bruiſing them; then put them in a *woollen bag* and hang them up, that the *liquor* may drop out into a *Milk-pan*, or ſuch like thing, for *twenty-*

four hours, or more; put then the *liquor* into an *earthen Pot*, with a *Faucet* in it, let it ferment there, and ſcum it off, at a Weeks end, or ſooner (if it be any whit fine) bottle it up, and at another Weeks end, ſhift it into freſh *bottles*, reſerving the *ſettlings* in the *bottom* of the *bottles*, which you may after put together into one *bottle* by it ſelf; ſhift the *bottles* thus *twice* or *thrice*, as long as you ſee any ſettlement in them. Or thus:

Take *Rasberries* pick'd and bruiſed, and to them add the like quantity of *White-wine*; let them ſtand together two or three *days* cloſe covered and ſtirred once a *day*; ſtrain it, put it up in a Pipkin with a Faucet, or little Veſſel, with ſome Sugar, if you pleaſe; after four or five *days* draw it off into Bottles.

Curran wine. *Sect.* 7. Of *Currans* alſo you may make a delicate Wine thus: Gather the *Currans* very *ripe*, bruiſe and ſtrain them; to every two quarts of the *juice* put one *pound* and a *quarter* of *Sugar*, put it into an *earthen Pot*, ſcum it oft, and at a Weeks end draw it off, take out the ſetling, put it in the *Stean-pot* again; do this *twice* or thrice till it be very fine, and *bottle* it; if you find it not fine in the

bot-

bottles at a Weeks end, ſhift it into other Bottles.

Sect. 8. Of *Apricocks* alſo is made a delicate *Wine* thus:

Take ſix pound of Sugar, and ſix quarts of Water, let them boil together, take off the Scum when it riſeth, put in twelve pound of *Apricocks* ſtoned and pared; let them boil till they are tender, then take them out, they will be good to eat, for preſent uſe, but will not keep long, unleſs you uſe them as in preſerving Apricocks.

When this *Liquor* is cold, bottle it, or you may, when the *Apricocks* are taken out, put into the *Liquor* a Sprig or two of flower'd *Clary*, and let it boil a walm or two more; and after it is cold bottle it.

It will be fit to drink at half a year old, and being kept longer, will come to more Perfection, holding good two or three Years.

If you find any Settlement in the *Bottles* at a Weeks end, pour the Liquor off into freſh *Bottles*, and the Settlement by it ſelf into other *Bottles*, which you may afterwards ſeparate again as it groweth fine.

Goosberry wine.

Sect. 9. To make *Goosberry wine:* Gather the *fruit* before they are too *ripe*, and for every *six pound* of *Goosberries*, take *two pound* of *Sugar*, and *two quarts* of *Water*, ſtamp the *Goosberries*, and ſteep them in the *water* and *ſugar* twenty-four hours, ſtrain them, and put the *liquor* Into a *veſſel* cloſe ſtopt for a fortnight or three weeks: Draw it off if you find it fine, if not, let it ſtand a fortnight longer, and then draw it into *Bottles*; but if it be not then fine, rack it, or uſe *Iſing-glaſs*.

Others gather the *Goosberries* full ripe, and uſe the like quantity of *water* and *Sugar*; but put not the *Sugar* in till they have preſs'd the *liquor* from the *Goosberries*, after they have lain in ſteep twenty-four hours, and make excellent Wine. The *Goosberry* Skins after preſſing, and the Lees mix'd of any ſtrong Liquor, alſo the Lees of the *Goosberries* themſelves make excellent Brandy.

Delicate *Wines* are made theſe ways upon *Experience*; but if you deſire to make a greater quantity of *liquor* of your *Fruit*, you may either for *Rasberry*, *Curran*, or *Goosberry Wine* add more *water*, and make them after this manner.

Sect.

Sect. 10. For every pound of ripe *fruit* ſtampt, take a *quart* of *ſpring-water*, and a quarter of a pound of fine white *ſugar*, boil the *water* and *ſugar*, ſcum it and put in the juice of your *Fruit*, let it boil up again take it off the *fire*, run it through a *hair ſieve*, and when it's throughly cold put it in a *Steen-pot* or *Veſſel*, after *ſix* or *ſeven days* draw it out into *Bottles*, put into each *Bottle* the quantity of a *Nutmeg* of Loaf-ſugar. It will not be fit to drink under a *quarter* of a *year's* time, and will keep good a *year*. Another way.

According to this laſt direction you may alſo make *Cherry Wine*, or to make it ſtronger, uſe no more *water* than *juice* of the *Cherries*.

Sect. 11. *Cherry Brandy* is uſually made with *black Cherries*, by filling a Bottle half full of *Cherries*, and putting in *Brandy* till the *Bottle* is near full; ſhake it ſometimes; within a Month it will be ready to drink. Cherry Brandy

If you put the like quantity of *Gooſberries* inſtead of *Cherries*, it will make the *Brandy* very delicious.

If you do ſo alſo with *Raſberries*, putting in ſome *Sugar*, the *Brandy* will be dulcified, and have a fine Flavour.

Sect. 12. Since I have ſpoke of *Liquors* of the *Fruits*, it may not be impertinent to add ſomething of the Liquors extracted out of the *Trees* themſelves. It's moſt practiſed in *England* on *Birch-trees* (which are beſides my Diſcourſe) yet may it be (as it is) on Fruit-trees in other Countries, here. In particular, the *Walnut-tree* affordeth this Liquor plentifully. It is uſually done by penetrating the body of the Tree with an Augar, and putting in a Faucet, from which the Liquor is received in a Bottle or other proper Receiver, but leſs damage may be done to the *Tree*, and more *Liquor* attained, by cutting of the ends of ſome ſuperfluous *Branches*, of ſuch a ſize as fit the Mouths of *Bottles*, and by hanging ſeveral *Bottles* on ſuch *Branches*, thruſt in them, to be done in *March* and *April*. And after the *Liquor* is received, to every *Gallon* add a *pound* of *Sugar*, or a *quart* of *Honey*, boil it half an hour, ſet it to cool, add Yeaſt or or Barm, tun it up when a little fermented, and, if you pleaſe, hang in a Bag of Spice (*viz.*) *Cinnamon* and *Mace* bruiſed, ſtop it cloſe; in a Month bottle it; it's quickly ready to drink, but will not keep long.

Sect.

Sect. 13. If you have *Sider* (of no better worth than to make *Vinegar*, or) where Wine-Vinegar is not eaſily had, to procure it of Sider you may draw off your Sider as fine as you can into another Veſſel, and add a ſmall quantity of the *Muſt* or *Pouz* of *Apples*; if you can have a conveniency put it in the Sun, and at a week or nine days end draw it off. Now if you deſign this, you muſt keep a Cake of *Muſt* or *Pouz* in a dry place, till you have occaſion to uſe it, and uſe not ſuch of it as is mouldy or ſmells muſty.

Ill Sider diſtill'd in a Limbeck yields excellent Spirit, fit for any uſe as Brandy.

Sect. 14. To make excellent Wine with *Elderberries*, very like Claret-wine, and exceeding the ordinary Claret in ſtrength.

Take what quantity you pleaſe of *Malago Raiſins* chopp'd very ſmall, to every pound of them put a quart of water, and let them ſtand in an open Veſſel with a Cloth caſt over for the ſpace of a week or nine days, ſtirring them wet every day: Then draw off what Liquor will run, and ſtrein the reſt out of the Raiſins by preſſing, and tun it

up in a Barrel, and unto every Gallon of this Liquor add a Pint of the Juice of ripe *Elder-berries* cold (after it hath boil'd and ſcumm'd) ſo let it ſtand cloſe ſtopp'd about ſix weeks, then draw it off as far as is pretty fine into another Veſſel, and add half a pound of ordinary Sugar to every Gallon of Liquor, and when it's perfectly fine draw it into Bottles.

CHAP.

CHAP. XVI.

Of Greens and Green-houſes in General.

SECT. 1. *Greens* retaining their Beauty in the *Winter* as well as *Summer*, are deſervedly affected by the *Curious*: I have therefore to my former *Treatiſe* of Fruit-trees, added ſome *Chapters* of them, ſufficient (I hope) to improve any ordinary *Artiſt* in *Planting*, both in the propagating and preſerving of them, and ſomewhat to *entertain* Gentlemen and Ladies that delight therein. Introduction.

I ſhall firſt lay down ſome *general Rules*, which may one way or other concern them all, and afterwards treat of ſome of them in particular.

There

There are five ways or means by which they are raiſed or encreaſed.

1. By *Seeds* or *Berries.*
2. *Graffing* and *Inoculating.*
3. *Suckers,* or *Off-ſets.*
4. *Layers.*
5. *Cuttings* or *Slips.*

The firſt of theſe muſt be treated off under each *particular* Plant ſo raiſed, becauſe the *manner* of propagating them by Seed is not always to *ſeveral* kinds in the ſame Method.

As to the ſecond, The ſeveral ways of *Graffing* and *Inoculating* are already plainly and fully directed in the fourth and ſixth Chapters of this *Treatiſe,* and which kinds are to be ſo encreaſed, ſhall be mentioned when I come to write particularly of them.

Touching the three laſt I ſhall give ſome *general Rules,* which will ſerve alike for all that are to be raiſed *thoſe* ways, as follows:

Of Suckers.

Sect. 2. By *Suckers* or *Off-ſets* is underſtood young Shoots from the Roots of a *Tree,* &c. of the ſame kind and nature with the Tree from which they ſpring;

ſpring; for ſuch which grow from *Trees* that were raiſed by *Graffing* or *Inoculating* follow the nature of the Stock.

Theſe *Suckers* ſometimes (and of ſome kinds uſually) put forth near the Body of the Mother Plant; others at more *diſtance*, the laſt are the beſt, where they can be had; yet the former removed in a ſeaſonable time (*viz.*) when there is leaſt Sap in the top, and *preſerving* what fibrous *Roots* are upon them, often proſper well; therefore when you take them up, open the Ground very well as deep as they grow, and (if they grow from the *Body* of the Tree or great *Roots*) cut them off *cloſe* to the Stem, and ſet them preſently. As for ſuch that grow at more diſtance, you may take up a little of the *old* Root with them (if they have few or none of their own putting forth) and yet do the old Plant no hurt.

By *baring* the Roots of *Trees*, and *ſlitting* them in ſome places, they are made more apt *to put forth* Suckers.

Sect. 3. To raiſe Trees or Shrubs by *Layers*, cover ſome of the low *Branches*, of ſuch Trees or Shrubs you would raiſe from, Of Layers.

from, with good fat Mold, leaving their ends out, until they are rooted, and then cut them off; ſuch that grow ſo *high* that they will not eaſily *bend* or *yield* to the Earth, may be *ſlit* as in plaſhing, and ſo brought down: Or if more be deſired to be raiſed than you can bring *Branches* down to the Earth, it may be done by Circumpoſition, as Chapter 9.

And further, if you would have *plenty* of encreaſe of any Plant in a *Pot* or *Caſe* it's eaſily effected, by making a *hole* in ſome Ground that is not very wet or ſtiff, ſo deep that when the *Pot* is in the hole the *Branches* may be even, or a little above the *ſurface* of the Earth; then *lay* faſt Mold or good Earth as high as you pleaſe about the *body* of the *Plant*, letting as many of the *ends* of the *Branches* as you can appear out of the Earth: As the Mold *ſinks* or *falls down* renew it: Let the *Plant* continue the whole *Summer* thus with watering frequently if it be of ſuch kind as ought to be *hous'd* in the Winter; but if it be ſuch that will bear the Weather *abroad*, let it abide a whole *year*, and then abating the Earth. Cut off each *Branch* that is *rooted*, and plant it where, and as the

the kind requireth, and water them as ſoon as ſet, and let them not be expoſed to any extream *heat* of the Sun till well ſetled.

The time for laying is in the beginning of *Spring*, or *Autumn*; in the Month of *Auguſt* is the ſureſt and leaſt trouble; thoſe laid in the ſpring requiring frequent *Waterings* in the Summer time.

Thoſe that are not apt to ſtrike *root* plentifully, may be help'd by *ſlitting*, *nicking*, *pricking* with an Awl, or *tying* a Packthred about the place that is put into the Earth to take root.

Sect. 4. Very many of ever-green Plants will take by *cutting* or *ſlipping* off a Branch or Sprig, and ſetting it in fine moiſt Earth. In moſt kinds the beſt time is from the middle of *Auguſt* to the middle of *April*. The *Sap* ought not to be too much in the *top* when its done, leſt it die or decay before that part in the Earth has *Roots* ſufficient to maintain the top; neither ought it to be very *dry* or *ſcanty*, for the *Sap* that is in the Branch helps it to ſtrike Roots. If it be done in *Spring*, let them not fail of water in the *Summer*. Of Cuttings or Slips.

When

When you provide them, cut off ſuch *Branches* as have *Burs*, *Knobs*, or *Joints* two or three inches beneath them, ſtrip off the *Leaves* ſo far as you place them in the Farth, and leave thereon no *ſide* Branch, nor but little *top*; Sprigs of *two* or *three* Years growth are the beſt for this operation. Some adviſe to *ſlit* the end that was cut off, before you ſet it.

Whatever *Tree* or *Plant* you find in the direction following may be rais'd by *Cuttings*, the growth thereof is much facilitated by being made a *Layer*.

Of Green-houſes.

Sect. 5. Many choice *Greens* will not in our Climate bear the *Winter's* cold abroad, whereforc it is neceſſary to have a *Houſe* or *Conſervatory* for ſuch.

Green-houſes are of late built as Ornaments to Gardens (as Summer and Banquetting-houſes we formerly) as well as for Conſervatories for tender Plants; and when the Curioſities in the *Summer time* are diſperſed in their proper places in the *Garden*, the Houſe (being accommodated for that purpoſe) may ſerve for an *entertaining Room*.

A *Green-houſe* ought to open to the *South*, or very little declining to *Eaſt* or *Weſt*; it's *height* and *breadth* about 12 foot, and not exceeding, for the more advantage of the Sun-beams and Air; the *length* according to the number of Plants intended for it: Let it by no means be *plaſtered* within with Lime and Hair, becauſe *dampneſs* (the great Enemy to moſt of theſe Plants) is obſerved to continue longer on ſuch Plaſter than on Bricks or Wainſcot: One part of it may have *Trills* made under the Floor for carrying warmth from the *Stoves* made on the back-ſide of the Houſe, the better to preſerve it from cold or dampneſs, and this to be reſerv'd for the moſt *tender* Plants, being thought to be much better than Fires hung up, or placed in holes on the Floor, as hath been uſually practiſed, though in extremity of weather that way may be ſometimes uſed in the other part of the Houſe; and if *Charcoals* be uſed in Pans, let them be well *burnt* before they are put into the Houſes; *Coals* out of *wood-fire* or *Ovens* will ſerve very well. Some Perſons uſe *Glaſs-doors*, *Caſements*, or *Chaſes*, I think *Canvas* Doors better; whatſoever it be, they ought to be placed

ced at ſuch diſtance from the *Wainſcot* Doors, that in extremity of weather *Mats* may be ſet up between them. If *Canvas* Doors be uſed, they may be made to take off and put on at pleaſure, that if the Houſe be uſed for *Entertainment* in the Summer time they may be laid aſide.

Mr. *Evelin* hath offer'd a very probable way of *warming* and *refreſhing* the Plants in the *Green-houſe* with *Pipes*; which you may ſee fully deſcribed in his *Kalendarium Hortenſe* of the laſt Edition.

Sect. 6. But if any one deſire a *Green-houſe* (the like whereof upon experience in the ſharpeſt Winters hath *preſerved* the choiceſt Plants) with leſs *expence* or *trouble* than any other (for ſuch that value it only thereupon, and not for *Ornament*) it may be thus made.

In any place where the Ground is *dry*, and annoyed by no ſpring or ſoak of *Water* (the *nearer* the Garden the more convenient) dig as for a *Cellar* or *Vault* about ſix Foot *deep*, and ten Foot *wide*, of ſuch *length* as may be neceſſary to contain the Plants you would repoſite.

Wall up the *ſides* with *Brick*, and make a pair of *Stairs* at the one end of the whole breadth, the better for two Men to *carry* up and down large Boxes or Caſes between them; or if any one will uſe a *Crane* to let down and take up the Caſes, a *Ladder* may be ſufficient without Stairs. For the *Cover* of it let it be made of Fetheridge Boards, in the nature of ſeveral *Doors*, with *Hinges* fix'd on them, to be put on *Hooks* faſtned in a piece of *Timber* lying on the *North-ſide*, rais'd a Foot higher than the *South ſide*, that the *Cover* may by *ſhelving* a little, the better to *carry off* Rain-water, and between every pair of Doors let there be a *Joyce* laid for them to reſt upon; let a *Rope* (or two, if the Doors are broad) be faſtned unto the *South-end*, or fore-part of each Door, and a *Frame* of two *Rails* on the *North-ſide* of the *Conſervatory*, that the *Ropes* may be drawn over that one *Rail* to raiſe the Doors for opening the Cover, and be faſtned to the other *Rail* when the Door is at ſuch height as is requiſite, whereby as the Seaſon is, the Doors may be raiſed and ſtand at what *height*, and as *few*, or *ma-*

ny as is neceſſary to adm t the *Air* and *Sun-beams* to the Plants therein.

In very ſharp weather let *Fearn*, or ſome kind of *Straw* be laid on the *top* of the Boards, that the *Wind* may not pierce thereinto.

I know any kind of *ſubterraneous Conſervatory* hath already been condemned in Print, as being too *moiſt* for the *Plants*; and I queſtion not but on the firſt reading this may be obnoxious to the ſame Fate, but whether ſuch a Cenſure be reaſonable or not, I ſhall not concern my ſelf, ſince I have matter of *Fact* on my ſide. And there needs no great Philoſophy to prove, the *dry Quality* of Earth, and that a Houſe or Room *above-ground*, expoſed to all ſorts of Weather and Air is affected with *Miſts* and *Vapours* (as well as by all conſent they are with *Froſts*) much more than ſuch a Houſe or Room that lies not above the Surface of the Earth.

A *Green-houſe* ſomewhat *like* the former, and very uſeful, and leſs troubleſom, might be contrived in a ſpot of Ground that already is, or can be conveni-

veniently made like a *Gravel-pit*, the *back-part* and *ends* to be below the Surface of the Earth, and the *Front* open to the Air with Doors as the firſt, and a *Roof* ſhelving forward, if there can be a *paſſage* to carry away the Rain-water.

Sect. 7. Orange Trees, and ſome of the *tendereſt* Plants ought to be put in the *Conſervatory* commonly in the beginning of *September* (ſometimes the Weather is ſo favourable they may ſtay out longer) and not ſet forth until the end of *April* or beginning of *May*; reſpect muſt always be had to the *Climate* and quality of the *Weather*. At firſt putting into the Houſe, and for ſome time before they are taken out, and at any time when the *Sun ſhines*, if the *Wind* be not ſharp, or *Froſt* ſevere, at leaſt-wiſe in the *middle* of the day, the *Door* muſt be open. The more *Air* they have (if the Seaſon admit it) the *healthier* they may be expected. Mr. *Evelyn* in his *Calendarium Hortenſe*, and Mr. *Gilbert* in his *Vade Mecum* have divided all Plants proper for the *Green-houſe* into

General Rules for ordering Greens.

three *Claſſes*, ſhewing which are moſt tender and more hardy.

Upon every *Removal* in or out of the Houſe, which will be *twice* every Year, *refreſh* the Trees in the Pots or Caſes with good Earth, *taking* ſome of the old out, and *looſening* what lies among the Roots: Let the Earth put in lie *higher* than the out-ſide of the Pot or Caſe, becauſe it will *ſink*.

As ſoon as the Trees, *&c.* are *put* in or out of the Houſe (having been refreſhed with Earth, as aforeſaid) give them *Water* plentifully, even till it runs out at the bottom. After long *Froſts*, if the Earth be *dry*, give them Water alſo; and when they are abroad in *May*, *June*, and *July* (unleſs there be great Rain) moſt kinds will bear it *twice* a week; in *Auguſt* and *September once* in ten days may ſuffice.

As they grow *bigger* they ought to be removed into larger Pots, Boxes, or Caſes; the moſt convenient time for ſuch removals is the beginning of *April* generally; ſome *hardy* Plants may be

be removed ſooner : To perform it, lay a Courſe of *Rubbiſh*, as Brick-bats, Chips, and Sticks orderly, that wet may *paſs* through in the bottom of the Pot, Box, or Caſe you deſign to *remove* the Plant into, about three inches *thick* more or leſs according to the bigneſs of it, and upon that lay a *courſe* of good Earth preſs'd down hard, as *high* as the middle of the Pot, *&c.* Then remove the *Plant* out of its former Pot in this manner, with a *Trowel* or otherwiſe take the Earth out that lies near the *Pot-ſides* round about the *Roots*, and part of that on the *top* of the Roots, and then *draw* the Plant gently out, with as much Earth as will hang upon it, ſuch Roots as are bare *ſhorten*, and if they grow *thick* or *croſs* one another, ſeparate and thin them, and then having fitted the Earth as aforeſaid in the new Pot, *&c.* for receiving the Roots, place the Tree in it, and *preſs* the Mold about it, *water* it very well, and let it ſtand in the *Conſervatory* a while after, till the Seaſon is fit to ſet it abroad.

Much of this Direction will ſerve for the firſt *Planting* Greens in *Pots*.

Before *Plants* are *removed* out of the Houſe, they ought to have the *Duſt* and *Filth* bruſh'd off them, and then waſh'd with a *watering Pot*; and do this as oft in the *Summer* as they are duſty, it will preſerve them *beautiful*.

And this is what ſhall be ſaid in *general*, with this only Addition, That it is a great *fault* in *Gardiners* to bring up thoſe Plants *tenderly* in Houſes, ſome whereof in any *place*, others in good *warm* places under *Walls*, will *bear* almoſt any *Winter*, unleſs there be a great *extremity* of Cold, when a little covering with *Mats* may be neceſſary; for all Perſons find, that notwithſtanding great *Skill* and *Care* uſed, many hous'd Plants become *feeble* and *unhealthy*, and ſome *periſh*.

CHAP.

CHAP. XVII.

Of ſeveral Plants in Particular.

SECT. 1. Of *Oranges* and *Lemons.* Sowing Seeds.

Sow the Seeds of well *ripe* or *rotten* Oranges (the Confectioners can help one to plenty) on a *Hot-bed*, ſomewhat *decay'd* or *cold*, in the beginning of *April*, the breadth of two or three fingers *deep* in trills or holes prickt in; keep them there with convenient *watering* untill the end of *July* or beginning of *Auguſt*, and then with ſome Earth about the roots *tranſplant* them into Pots, four or five of the luſtieſt in each Pot, water them and as the weather grows cold cover them in the nights till *November*, and then they ought to be put in the Houſe: Or elſe let the Seeds be at firſt ſowed in Pots in the *Spring*, and place the Pots in *Hot-beds*, and this is the beſt way.

And according to the *general* rules before laid down, preſerve them untill they are *big* enough to enoculate, which is to be done in *July* or *Auguſt*, or as ſome will have it done in the beginning of *April*, placing two buds *oppoſite* to each other, within an inch of the Earth they ſtand in, or elſe graff them by *approach* in the Month of *May*.

Sect. 2. Trees may be bought *ready raiſ*- they come out of *Italy*, if they can be had in *April* or the beginning of *May* its a good Seaſon. Theſe come with the roots *bare*, or in *clods* of Earth.

Of buying Trees ready graff'd.

Thoſe which come with *bare* roots have commonly their heads bare of *leaves*. If it be not done before, they are to be *trim'd* from head to foot, (that is) all the ſmall *twigs* of the head cut off cloſe, and the *big* ones ſhortened, ſo as to bring it when it ſhoots forth to a proper *round* figure, and all ſuch ſmall or fibrous roots as are *dry*, and others as far as they are *dead* taken off clear and even.

This done *plunge* the roots for five or ſix hours in common water, and then plant them in prepared Earth in *baſkets*, and ſet the baskets in a moderate *hot-bed*, made in a *ſhady* place (or elſe the Trees ought to be *covered* from the piercing heat of the Sun, with mattraces on frames over them, or ſome ſuch like covering) and thus with moderate *watering* (ſo as the mold may be a little moiſt) let them *remain* all the Summer in the *hot-bed*, and in the middle of *September* (ſooner or later as the weather is foul or favourable for that time of the year) *remove* them into the Green houſe, put the *baskets* into the *Caſes* fitting for the Trees, and laying Earth about them, the baskets will rot time enough for the roots to ſtrike through.

As for Trees brought into *England* with *clods* of Earth upon them, the Tops muſt be *trim'd* as the other, and *pare* a little of the Clods, ſo as to come at the Roots and *cut* a little off the ends of them, then with care *plunge* the clod into water and continue it, untill it hath

hath given over *bubbling*, being then taken forth whole, let it *drein* a little, and then place it in a *basket* with earth and order it as the former.

Some put *Soft-wax* on the heads cut off. I think it's needleſs untill the Tree hath *ſhot-forth*, and then the top ought to be *cut* cloſe to the beſt placed, ſtrong, uppermoſt *ſhoot*, and be covered with *clay* as in Graffing, or a mixture of *Bees-wax* and *Oyl* in ſuch proportion that it may be *plyable* and work in your hand. But for ſeveral reaſons *clay* wrought with pretty long hay is beſt.

Though ſome of thoſe bought, ſhould not *ſhoot* forth the *firſt* year, yet caſt them not a way, for they *may* afterward.

Of preparing Earth.

Sect. 3. The beſt Earth for the *Pots* or *Caſes* is thus prepared; Take good natural ground next under the *Turf* free from Stones, rather ſolid and heavy than over light (or if you have time to let it lie to *rot Turf* and all) mix this with

with half as much *Sheeps-dung* or *rotted Neats-dung*, or for want of ſuch, the *dung* of an old Hot-bed, and thus being mixt, it may be uſed *new* made, but it's much better, if mixt and *layn* ſometime on a heap, and *ſcreen'd* when it is to be uſed. After this manner is prepared Earth or Mold for *Planting*, *Removing* or *Refreſhing* Orange Trees.

Sect. 4. Beſides the former *pruning* at the firſt planting Orange Trees, it ought to be done twice in a year at leaſt, to keep them in handſome *ſhape* and *form*: A Stem of three or four foot high may be moſt ſuitable for Trees in *Caſes*. Of Pruning.

The Figure of the *Top* ought to be a *broad-round*, a little Piramidical, but not ſharp, when ever it *ſhoots* ſo far on each ſide, as to enlarge it ſelf above one *foot* in the Diameter, that's a ſufficient *growth* for one year, and it ought to be reduc'd to that, at leaſt if ſome ſhoots have grown longer that is above *half a foot* on any ſide they muſt be *ſhortned*, and care taken (as near as may be) to keep all *ſides* of an

an equal *length* from the Stem, whether it hath grown more or leſs; No Sprigs muſt be permitted to *hang-down* further than they are a *cover* to the branch they grow upon, the much greater part ought to grow ſlopingly *upward*.

This with what is already laid down in the *general* directions I hope is ſufficient *inſtructions* for the Ingenious.

Limon-Trees require the ſame Governance as the *Orange-Trees* do, only they are ſomewhat *leſs* patient of Cold.

Of

Of Bayes and Lawrels.

Sect. 5. THere are divers ſorts of *Bayes*; The common kind is not only a *well ſcented Tree*, but very *beautiful*, when duly ordered; Being planted in *Pots*, *Boxes* or *Caſes*, it may be kept in the ſhape and ſize as *Orange-Trees* are, or planted abroad it may be permitted to grow to a conſiderable *heighth*, and almoſt of what ſhape the manager pleaſeth.

They are raiſed by *Berries*, *Suckers* or *Layers*. But I may lay down this Aſſertion in reſpect of theſe and generally of moſt Plants (*viz.*) That thoſe which are of *ſlow growth*, make *leſs* progreſs therein, and are *leſs* beautiful, when raiſed by *Layers*, than thoſe that riſe from *Berries*, or good *Suckers*.

As

As to raiſing the *Bay-tree* of *Berries*, they muſt *hang* on the Tree, untill they are droping *ripe*, and be gather'd *dry*, and put in dry *Sand* to lie in the Winter, and ſet in Rows or Trills in *March*: For the firſt two or three years, they ſhould have ſome *covering* in cold weather, the ſharp *Eaſt* and *North* Winds are more pernicious than *Froſt* or *Snow*: At other times the *Air* is good; they delight moſt in ſomewhat a *ſhady* Place, but a *hot* gravelly Land.

They are proper for *Hedges* or *Arbours*, but the moſt beautiful uſe of them (if you are not willing to be at the charge and trouble of *caſing* and *houſing* them) is to plant them on *Borders* near *Walks*, and prune them up clear for three or four *foot*, and then order the *top* to what ſhape you pleaſe, it will grow *thick* and *full* of Branches.

The *Roſe Bay* is of two ſorts, one bearing *red* the other *white* Flowers, but bear no *Seed* with us.

The

The *Indian Bay* is a *ſlow* grower and *tender*, requiring to be hous'd in the winter, 'tis *encreas'd* by Layers.

Lauruſtinus is of *two* ſorts; the one hath *white* Flowers with bluſh edges, the other enclined to *purple*, flowring in the winter; both ſorts grow by a *Wall* or *Pale* very well, bear Berries from *which* or *Layers* they are eaſily encreaſed. They may be ſet in *Pots* or on *Borders*, and being ſupported by a *Stick* kept *ſtraight*, and have *round* heads, and ſo ordered will be very hanſome, and *double* the growth of *Bays*.

The common *Lawrel-tree*, were it *Aromatick* as the *Bay* is, I think in many reſpects would *exceed* it, being eaſily *propagated* the ſame way, and of much ſwifter and ſtronger *Growth* than it or any other ſuch like *Green*. It may either be kept *low* or ſuffer'd to grow to what *heighth* reaſonably can be deſired, cut in any *figure* or *ſhape*, it abides all *weathers*; not but that ſometimes

times a *tender* ſhoot may *die* in part, but that cut off to the next bud or branch will make amends by its growth next *year*; I much wonder it is not more uſed for out *Walks* and *Avenues*, it's commonly employ'd to *cover* bare Northern Walls, and for Hedges, wherein alſo nothing comparable to it, comes *ſooner* or proſpers *better*, it *grows* very well of *Layers*, and ſome *Cuttings* in moiſt and ſhady ground will *take* well.

Of Holly and Yew.

Sect. 6. THeſe are two common *Engliſh Greens*, which for *Avenues*, *Groves* and the firſt for *Hedges* I think nothing excells, their only fault is the *ſlowneſs* of their growth.

They

They are propagated by *Seed*, which ſeldom comes up the *firſt* year. They ought to be full *ripe* before gathered, preſerved in dry *Sand* until *March*, and then Set or Sowed in a *ſhady* place in *moiſt* ground and *watered* in the Summer.

This is certainly the *beſt* way to have *plenty* of them, and *curious* trees, though the ſooner will be to get *ſeats* of them out of *Woods* and *Hedges*, and of ſuch *ſeats* as came from *Berries* (gathered about *Allhallowtide*) ſcarce one will *fail*, but ſome perſons employ'd to gather theſe *ſeats* go to a *Holly Buſh* and take off the loweſt *branches* that have made themſelves *Layers*, and got ſome little *Root*, and bring theſe for *Planting*, many or moſt of which commonly *miſcarry*, though certainly with a little *Art* (viz. caſting in Earth among and upon the *branches* that grow near the ground, in a *years* timere the might plenty of good *Layers* be had.

If you plant a Holly *Hedge* of *ſeats* that are a foot or more *long*, after a *years* growth *lay* them down and *cover* with Earth all except a branch or two of the *Top*, and they will ſhoot forth *thicker* and *ſtronger* from that part *laid* down and come *ſooner* to a better hedge than otherwiſe.

It may be an Additional *grace* to a Holly Hedge, if at *two or three yards* diſtance, you *graff* or inoculate one of them, with a *Striped* Holly and ſuffer it to grow up *above* the Hedge to what *heighth* and in what *Figure* you think good.

Theſe *Hedges* are very proper, to be ſet within a *Pale*, that ſtands for a *defence* to Fruit, that grows on the out ſide of a *Garden-wall*; and may be kept *cut* at what height is beſt, regard being had to the *nearneſs* it grows to the wall, which it ought not to give *ſhade* on. But its pricking it may be a means to *deterr* ſome *Robbers*.

In many Countries there grow ſuch plenty of *Holly-Trees* and *Eughs*, that one Man in a days time may *find* and *get up*, two three or four young Trees of eight or ten foot *high*, with good bodies, fit for *Groves* or ſome particuliar *Avenues*: Where ſuch can be had many years *advance* is gained of raiſing by Berries or Seats.

There are divers ſorts of *ſtriped* or *variegated* Hollies, formerly a great rarity, and always very fine: theſe are encreaſed by *layers*, but much ſooner by *graffing* or *inoculating* upon the Green Holly.

Of Cypreſs and Juniper.

Sect. 7. THe Cypreſs is raiſed of Seeds. Sow them in *March* or in the beginning of *April* on a bed of fine Earth well preſſed down, ſift mold *over* them about an inch thick, *water* them always in dry ſeaſons. After *three years* growth they ought to be *tranſplanted*, when you do it; *cut* off a hands breadth of the *Top*, and *clip* the *ſide* Branches, which being yearly *ſhorn* (it ought to be done in warm weather in *May*) may be kept furniſht from the *top* to the *bottom* with green *Branches* and to grow in a *Pyramidical* form very beautifully without *binding* as is commonly practiced) for that *hinders* the growth of the *ſtem* or body in ſtrength; If the top branch be *weak*, ſhorten it ſometimes that it may ſhoot *ſtronger*.

Or

Or you may raiſe fine *hedges* of them, by ſowing the Seeds in a Trill, and when they are grown two or three *years*, take up the *ſupernumeraries* for planting elſewhere, leaving them about a *foot* diſtance one from the other, which being kept *clipt* on the *top* and *ſides* will make handſome ever-green *Hedges*.

Its a curious Tree for ſome peculiar *Avenues* which fancy may lead unto, which ſhould be a *place* well defended from ſharp *winds*, in ſuch they have been known frequently to grow to a great *height* and very beautiful; it is a great *evil* that often befalls them in ſevere *Winters*, to have a great part of their branches *killed*. This miſchief is not ſeen in a Tree that with due ordering may come very near it, in its beauties; that is

The *Juniper*, which, tho they grow in *Buſhes* in the *Commons* where Cattle or Sheep brouze upon and crop them, yet have I ſeen them taken out of *Woods* with ſtraight bodies eight or ten Foot *long*, but theſe (as all Trees

in Copſes are, were *weak* in their bodies) had not *ſtrength* in the Stem proportionable to their *height*, I doubt not but with due *ordering* they might be brought to handſome Trees for *Avenues*.

They may be raiſed plentifully from the *Berries*, or young *Plants* may be had out of many *Commons* in *England*, which being a little *trimed* and planted, after a *years* growth may have the *crooked* part cut off, and the next ſhoots may grow up to ſtraight and handſome *Trees*: Or they will make curious *hedges* or *Arbours* being ordered accordingly.

Of the Firr and Pine-tree.

Sect. 8. THE Firr and Pine are raiſed from *Seeds* or *Kernels*, which are lodg'd in *Cones* or *Apples* that grow upon thoſe Trees, and are beſt taken out by expoſing the *Cones* to the *Fire*, the heat whereof making them *gape*, will ſoon diſcover the *Seed*.

Sow them in *March*, rather in Caſes than otherwiſe, that they may be *remov'd* from place to place as the *Seaſon* requires. At firſt ſowing place them near the *South-ſide* of a Wall; when they are come up, and the Sun *hot*, remove the Caſes into a more *cool* and *moiſt* place. In the beginning of *Winter* return them to the former Wall: Thus do for at leaſt the firſt three Years.

If you ſow them in *Beds* of Earth, ſhade them from the *piercing* heat of the Sun-beams in *Summer*, and cover them lightly in *Winter*.

The Seeds ought not to be *ſet* or *ſown* deep, but *covered* with light Mold: When they are *coming up*, let a *Net* or defence be ſet over them to prevent *Birds* plucking them up, which they are apt to do by taking hold of the *Husk* or remaining part of the *Seed*, that comes upon the young Plants *Head*. When they are about two inches *high*; ſift *Earth* about them, to uphold their *weak* Stalks.

The firſt three or four Years they are *ſlow* of growth, and ſomewhat tender, but then you may *tranſplant* them, cutting off the *ſide* Branches, little of the *Roots*, and none of the *top*. If the place be *near* to which they are to be *remov'd*, preſerve ſome of the *Earth* they grew in about the chief *Roots*, ſhortning the *ends* of ſuch as hang out, and ſo ſet them.

There

There are ſeveral ſorts of theſe *Trees*, all which require the like ordering, and ſuffer by *removing*, eſpecially the *Pine*, which often miſcarries: Therefore (if Circumſtances will allow it) the beſt way is to raiſe them of *Seeds*, in the place where they are to ſtand, for thereby they would have much advantage in their *growth*, every *removal* retarding (if not endangering) the ſame: However, after they are well *rooted* they thrive very faſt, in forty Years time growing to large *Timber*, where they like the Land.

They are very graceful in *Avenues* and *Groves*; and nothing is better to be planted about *Bowling-greens*, or ſuch places where the *Leaves* of other Trees at their falling, become an Annoyance to the Ground.

An

An Addition by an Eminent Gardiner.

THE Firrs of all the kinds may *ſtand* in their Seed-beds for two *Years* after they are ſown; and ſometimes, in caſe they do not *ſhoot* much, they may ſtand to the third Year. But as for *Pine-trees* they ought to be planted *out* from their Seed-beds the firſt Year after they are ſown; for they are Plants that generally *run down* into the Ground with a *Tap-root*, and are very difficult in growing after they are *removed*: So that the *beſt* way is to make the Ground *fit* where you intend they ſhall be *planted*, and ſo put in the *Seeds*. It's a *Tree* that grows very much in a *few* Years, when kept clean from *Weeds*, and ſuffered to continue where they are *firſt ſown*, and are fit to be *planted* in large *Wilderneſſes*, and *Groves*

Groves near to Great and Noble Seats.

Though it be a *ſpeedy* Grower, yet it muſt *give place* to the Noble Train of *Firrs*, of which there are three ſorts uſually rais'd in *England*, *viz.*

The *Silver*, The *Spruce*, and the *Scotch Firrs.*

The *Silver Firr* muſt be allowed to be the *fineſt*, though the *Spruce* and *Scotch Firrs* are eaſier to be raiſed and procured, the *Silver Firr* being ſomewhat *ſcarce*: But *Spruce Firr* is a Noble and a Uſeful Tree, fit to make *Eſpaliers*; a Method of *Planting* to be pitied that it has not been put in practice *ſooner*, by reaſon of the great uſefulneſs of it to break of the *cold* Winds from all *tender* Greens and Plants, a ſort of *Fences* which will be of much uſe in time. And theſe *Firrs*, being ſo planted, will endure *clipping* very well, and hereby grow very *thick*, and make a very fine *Hedge*.

Theſe

Theſe ſort of *Eſpaliers* were firſt put in practiſe at *Brompton Park*, where they are to be ſeen of ſeveral ſorts, made of *Foreſt-trees*, *Fruit-trees*, and *Ever-Greens*.

Of Phillyrea *and* Alaternus.

Sect. 9. PHillyrea is a *fine* green and *hardy* Shrub, yet in a very *ſharp* Winter, upon an *Eaſt* Wall, it hath been *kill'd* almoſt to the Ground: However being cut *cloſe down*, it hath quickly *grown* up. It may be raiſed by *Seeds*, but they are *long* in coming up; and it is eaſily encreaſed by *Layers* or *Cuttings*.

Beſides

Beſides the Green there are divers *Variegations* of them, one of Yellow and Green, called the *Golden Phillyrea*, another edg'd and ſtrip'd with White called the *Silver*.

They are uſed to *cover* Walls, or for *Hedges*, and in little *ſtandards*, either on *Walk-ſides* or Corners of *Graſs-plots*, where being prun'd, clipped, and duly ordered, they are very beautiful, eſpecially the *Silver*, which deſerves care; therefore (if they are not in *Pots* to be hous'd) let them have a covering in *ſharp* Weather by a *Mat*, or ſuch like, to defend them.

Alaternus, or *Ever-green-Thorn*, is likewiſe a *fine Green* for Hedge or Wall, and either way will grow to a great *height* if permitted and ſupported: 'Tis very *hardy*, rais'd of *Seeds*, which are ripe in *Auguſt*: Some adviſe to gather it before it is very *ripe*. If the Seed be kept till *April*, and then ſowed, it will come up in little more than a Months time.

There

There are ſome few more Evergreen *Shrubs*, and great variety of green *Plants*, curious in their kind, whereof ſome are *variegated*; for which, I hope, the Rules foregoing are ſufficient.

The enumerating of them would ſerve to no other uſe than to ſwell this Volume to a greater Bulk than is deſigned; I rather chuſe to refer you to the ſight of them at *Brompton Park* before-mentioned, which, I am certain, will yield Pleaſure and Satisfaction to thoſe that will view them in their proper places.

Reader, I have no more (and I am pretty well aſſured there's little more neceſſary) to ſay to thee as a *Planter*; but when thou goeſt to work by theſe Directions, then, as a *good Chriſtian*, obſerve the Characters of the Divine *Wiſdom*, *Power*, and *Goodneſs*, that thou ſhalt every where meet with in this ingenious and beneficial Employment, and chiefly take notice how all ends in that which ſerve

ſerve only for thy own uſe and pleaſure; therefore *praiſe* and *adore* him, and *obſerve* his Bounds in the Enjoyment: And in ſo doing thou maiſt have the benefit of, and I will take my leave of thee, in the Words of him that ſpake of Trees: *From the Cedar tree that is in Lebanon, even unto the Hyſſop that ſpringeth out of the wall. Go thy way, eat thy Bread with joy, and drink thy wine with a merry heart; for God now accepteth thy works*, Eccl. 9. 7.

A Catalogue of *Choice Fruits*, ſet in order as they are ripe for eating: And alſo of *Greens* and *Bloſſoming Shrubs*: To be had at *Bromptom Park*, near *Kenſington*.

French Primitive.
La Cuiſſe Madam.
La Grand Blanquet.
La Petit Blanquet.
La Muſcat Robert.
La Jargonelle d'eſte.
La poir ſans peau.
L'Eſpargne.
La Bourdon.
L'Orange vert.
July Flower.
La Fondant de Breſt.

La

La Groſs, } Ruſſelet.
Le Petit, }
Pear Roſhea.
Autumn Bergamot.
La Buree.
Greenfield.
La poir ſans Pepin.
Pear Royal.
Katharine.
La Pendar.
La vert Longue.
La Marquiſs.
La bon Chretien d' Autumn.
La Meſſieur Jean.
La Creſſau.
La Lovis bon.
L' Amadot.
La Virgoulee.
La Chaſſery.
L' Ambret.
La Petit Oin.
L' Eſpin d' Hyver.
La St. Germine.
La Colmar.
La St. Michel.
La St. Andrew.
La Brut bon.
La Bugi.
Swan's Egg.

La Bon Chretien d' Hyver.
La Liver, or *Pound Pear.*
La bon Chretien de Spain.
La Cadillac.

PLUMS.

La Perdrigon { *Violet,* / *Blanch.*
La St Katharine.
Apricot Plum, or *Prune d' Abricot.*
La Roche Corbon.
L'Empreſe.
La Reigne Claud.
L'Imperial.
La Royal.
La Violet.
L'Orleans.
Fotheringham.
Queen-Mother.
Damaſcen Noir de Ture.
Cheſſon.
Muſſel.
White Prunella.
Blue Primorden.
Red Imperial.

Blue

Blue, *White* { *Damoſeen.*
Sheen Plum.
Virginel.
Drab d'Or.
Savil.

APRICOTS.

Orange.
Standard, or *Bruſſels.*
Turky.
Maſculine.
Roman.
Late Apricot.

PEACHES.

La Magdalen Blanch.
La Magdalen Rouge.
La Mignone.
La pavie blanch.
L'Alberge Rouge.
La Bourdon.
La Bell Chevereuſe.

La Perſique.
La Bell de Gard.
La Purpree.
L'Admirable.
La Nivet.
La blanch Andille.
Lile Peach.
Mountabon.
Paſs Violet.
Old Newington.
Katharine.
Rambullet.
Perſian.
Sion.

NECTRONS.

Violet haſting.
Red Roman.

VINES.

Early Curran.
Black Curran, or *Cluſter.*
Royal, *White*, } *Muſcadine.*
Red,
Red, *White*, *Greeſlin*, *Black*, } *Frontiniack.*
D'Arboy.
Pearl Grape.

FIGS.

White.
Blue,

APPLES.

Golden,
Ruſſet,
Kirton,
Kentiſh,
Pearſons,
French,
White-man,
Dutch,
Greaſy,
Stone
} Pepins.

Pepin Pearmain.
Golden Mundy.
Non-pareill.
Royal,
Summer,
Winter,
Loans,
} Pearmain.
Pear Ruſſet.
Golden Rennet.
July Flower.
Winch Apple.
John Apple, or Deux-Anne.
Carraway Apple.
Quarandine.

Pome

Pome d' Apee.
Ruſſet Rennet.
Green Rennet.
Harvey Apple.
Red-ſtreak.
Codling.
Red Calvin.
Jennet Moyl.

A Catalogue of *Greens* and *Bloſſoming Shrubs.*

Ever Greens Broad-leav'd.

Lawrels.
Hollies ſtrip'd and *plain*, great varieties.
Alaternus ſtrip'd and *plain.*
Phillyrea vera.
Laurus Tinus.
Arbutus.
Piracanthus.
Lentiſcus.
Bayes.
Ilex.
Privet.
Box.

Ever-

Ever-Greens narrow-leav'd.

Silver, *Spruce*, *Scotch*, } *Fir.*
Yew.
Cyprus.
Juniper { *Swediſh*, *Common.*
Cedar of { *Lebanus.* *Goa.* *New-England.* *Lycia.* *Virginia.*
Savin.

Flowering Shrubs.

Laburnum.
Lelack { *White*, *Blue.*
Syringa.
Spaniſh Broom.
Bladder Senna.

Double

Double flower'd Ind. Almond,
Persian Jessamine.
Mezarian.
Althea Frutex.
Spira Frutex.
Scorpion Senna
Honey-suckles, all sorts.
Roses, many varieties.

F I N I S.

BOOKS Printed for Ric. Chiſwel.

FOLIO.

Wharton's Anglia Sacra, in 2 Volumes.
Dr. *Tho.' Brown's* Vulgar Errors, and other Works.
——His *Religio Medici* alone: With *Digby's* Annotations.
Tho. Pope Blount Cenſura Celebriorum Authorum.
D. *Cave's* Lives of the Primitive Fathers, in 2 Vol.
——*Hiſtoria Literaria.*
Dr. *Cary's* Chronological Account of ancient Time.
Clark's Annotations upon the Bible.
Faſciculus Rerum Expetendarum & Fugiendarum, in 2 Vol. *per Edwardum Brown.*
Hiſtory of the Iſland of *Ceylon*, by Captain *Knox.*
—— Of the State and City of *Geneva.*
—— and Antiquities of the Church of *Peterburgh.*
Hobbs's Leviathan.
Dr. *John Lightfoot's* Works, in 2 Vol.
Plowden's Commentaries of the Law Compleat, with Tables.
Ruſhworth's Hiſtorical Collections, 1ſt. Vol.
——*Idem.* 2d. Part, in 2 Vol.
——*Idem.* 3d. Part, in 2 Vol.
Speed's Maps and Geography of *Great Britain* and *Ireland*, and Foreign Parts.
Selden's Jani Anglorum Facies Altera, in *Engliſh*, with Dr. *Littleton's* large Notes.
Sir *James Turner's* Military Eſſays of the ancient *Grecian*, *Roman*, and Modern Art of War.
The Laws of the Kingdom of *Scotland* at large with *Skene de verborum ſignificatione.*
Dr. *Towerſon's* Explication of the Apoſtles Creed, Ten Commandments, Lord's Prayer, and Sacraments, in 4 Vol.
Cawley's Collection of the Laws of this Realm concerning *Jeſuits*, &c. *The Oath of Allegiance and Supremacy*; with Explanations and Reſolutions of the Judges upon them.
Sir *Humphrey Wynch's* Book of Entries.
Sir *Tho. Robinſon's* Book of Entries.
Holmes's Academy of Armory. 1688.
Joſephus's Hiſtory of the *Jews.*
Torriano's Italian Dictionary.

Quarto

QUARTO.

Dr. *Pet. Allix*'s Remarks upon the Eccleſiaſtical Hiſtory of the ancient Churches of *Piedmont* and *Albigenſes*, in 2 Parts.

Bibliotheca Norfolciana.

Biſhop *Burnet*'s Collection of Tracts, relating both to Church and State, from 1678. to 1694. in 3 Vol.

Baxter's Saints Everlaſting Reſt.

Dr. *Creſner* of the Judgments of God upon the *Roman* Catholick Church.

Camdeni & Illuſtrium Virorum ad Camdenum Epiſtolæ.

Diſquiſitiones Criticæ de variis Bibliorum Editionibus.

Goodwyn's *Jewiſh* Antiquities.

—— *Roman* Antiquities.

Malpighii Epiſtola de Structura Glandularum.

The *London* Divines Examination of *Bellarmine*'s 15 Notes of the Church, with Tables.

——Examination of the Texts which the Papiſts cite for proof of their Religion, with Tables.

Dr. *Patrick* (now Ld. Bp. of *Ely*) his Parable of the Pilgrim.

—— His Commentary on *Geneſis.*

—— His 8 Sermons upon ſeveral Occaſions.

The Seaman's Grammar and Dictionary.

Uſſerii Hiſtoria Dogmatica de Scripturis & Sacris Vernaculis.

Warren's *Geologia*: Or, a Diſcourſe of the Earth before the Deluge, in anſwer to the Theory of the Earth.

Dr. *Wake*'s 11 Treatiſes againſt Popery, in 2 Vol.

Dr. *Tenniſon* (now Lord Archbiſhop of *Canterbury*) his Account of the Conference with *Patron* the *Jeſuit.*

—— His 9 Sermons upon ſeveral Occaſions.

A Diſcourſe of the unreaſonableneſs of Separation on account of the Oaths.

A Vindication of the ſaid Diſcourſe.

The Hiſtory of the 7 Champions of Chriſtendom.

A Vindication of his Majeſty's Authority to fill the Sees of the deprived Biſhops.

Dr. *Williams*'s Diſcourſe of the lawfulneſs of worſhipping God by the Common-Prayer.

—His Repreſentation of the abſurd and miſchievous Principles of the *Muggletonians.*

The ſecret Conſults, Negotiations, and Intrigues of the *Romiſh* Party in *Ireland* from 1660, to 1689. for ſettlement of Popery in that Kingdom: With ſeveral other Treatiſes and Papers relating to thoſe Affairs

An Impartial Hiſtory of the Wars in *Ireland*, in two Parts with Copper Sculptures. By Mr. *Story*, preſent in the ſame.

The new *Cambridge* Dictionary, in 5 Alphabets.

Chillingworth contracted; with ſeveral new Tracts of the Author, never extant before.

England's Wants: Or, ſome Propoſals to the Parliament, probably beneficial to *England*.

OCTAVO.

Animadverſions on the Proteſtant Reconciler.

Dr. *Allix*'s Reflections on the Holy Scripture.

Ariſtotle's Problems.

Lord *Bacon*'s Genuine Remains; with an account of his Works. By Dr. *Tenniſon*.

Dr. *Bagſhaw*'s Diſcourſes againſt the Papiſts and Socinians.

Dr. *Burton*'s Diſcourſes, or Sermons, in 2 Vol. with Archbiſhop *Tillotſon*'s Preface.

Lord *Bacon*'s Eſſays and Counſels, Civil and Moral.

Dr. *Comber*'s Companion to the Altar.

The Countryman's Phyſician.

Biſhop *Cumberland* of *Jewiſh* Weights and Meaſures.

Dr. *Cave* of ancient Church-Government.

The Character of Queen *Elizabeth*. By *Edmund Bohun* Eſq;

Dr. *John Conant*'s Sermons.

Coles Engliſh and *Latin* Dictionary.

An Eſſay concerning Infant-Baptiſm.

Dr. *Fuller*'s 3 Sermons of Peace and Holineſs.

Sir *Robert Filmer*'s natural Power of Kings.

The Letters of Father *Paul*, Counſellor to the State of *Venice*; with an account of the ſame, in a large Preface.

Godfrey of *Bulloigne*: Or, the Recovery of *Jeruſalem*.

Hiſtory of *Geſta Romanorum*.

Tullies Diſcourſe of the Government of the Thoughts.

Mr. *Smith* and Dr. *Hammond*'s Letters about Chriſt's deſcent into Hell.

The Hiſtory of the Houſe of *Eſte*.

Dr. *Harris*'s rational Diſcourſe of Remedies.

Johnſon's Life of *Julian* the Apoſtate,

—— *Julian*'s Arts to extirpate Chriſtianity.

The *Jeſuits* Memorial for the intended Reformation of *England*, found in K. *James*'s Cloſet.

The *Indian* Prince, or Self-taught Philoſopher.

A Diſcourſe of Simony, by Mr. *Metford*.

Sir *John Mounſon* of the Supream Power, and Common Right.

Mar-

Markham's Perfect Horſeman in 50 Years Practice.
Sir *George Mackenzie* of the Right of Monarchy.
——Of the Royal Line of *Scotland*.
Ogilby's Tranſlations of *Æſop*'s Fables, with Cuts, in *Engliſh*, in 2 Vol.
Dr. *Puller* of the Moderation of the Church of *England*.
The Ancient Right of the Commons of *England* aſſerted. By *William Petyt* Eſq;
The Poſing of the Parts of Speech, by *Brinſly*.
The Conſpiracy of the *Spaniards* againſt the State of *Venice*.
Dr. *Sherlock*'s Defence of Dr. *Stillingfleet* of Separation.
The Preſent State of *Germany*, by *Edm. Bohun* Eſq;.
A Diſſwaſive from Revenge, by Biſhop *Stratford*.
Mr. *Tanner* of the Riſe and Growth of the firſt Church of God.
Dr. *Ten Rhyne Diſſertationes de Arthritide cum Figuris*.
Dr. *Towerſon* of the Sacraments in general.
——Of the Sacrament of Baptiſm in particular.
Torriano's *Engliſh* and *Italian* Grammar.
Memoirs of Chriſtendom from 1672. to 1679.
The Unreaſonableneſs of the *Romaniſts*.
Wincheſter Phraſes.
Biſhop *Wilkins*'s Principles of natural Religion.
Dr. *Wake*'s Sermons and Diſcourſes.
Dr. *Salmon*'s Supplement to his *London* Diſpenſatory.
Biſhop *Patrick*'s Anſwer to the Touchſtone of the Reformed Goſpel.
——Expoſition of the Ten Commandments.
——Prayers for ſeveral extraordinary Occaſions.

DUODECIMO.

Butleri Rhetoricæ Libri Duo.
Ciceronis Seleſtæ Orationes.
Conſiderations of Eternity by *Drexelius*.
Engliſh Examples, by *Leeds* for *Bury* School:
Juvenal notis Farnabii.
Mr. *Hodder*'s Arithmetick.
Luciani Dialogi, *Greek* and *Lat.*
New-England Pſalms.
A ſhort view of the unfortunate Reigns of *William* the 2d. *Henry* 2d. *Edw.* 2d. *Rich.* 2d. *Charles* 2d. and *James* 2d.
Biſhop *Patrick*'s Hearts-eaſe: Or, a Remedy againſt all Troubles.
Principia Mathematica pro ſtudioſa Matheſium Juventute.

Wool-

Woolley's Queen-like Cloſet. In two Parts.
The Rules of Civility.
Sylvani Scholia in Plutarchum de Liberorum Educatione.
——— *Sexaginta Æſopi Fabulæ notis Illuſtratæ.*
——— *Luciani Dialogi Selecti.*
——— *Theocriti Idyllia.*
——— *Iſocratis Orationes ad Demonicum & Nicoclem.*
——— *Ejuſdem Epiſtolæ quæ extant.*
Sandy's *Ovid*'s *Metamorphoſis, Engliſh.*
Dr. *Wake*'s Preparation for Death.
An Apology for a Treatiſe of Human Reaſon.
Biſh. *Wettenhall*'s Method and Order of private Devotion.
Valentine's Devotions 24o.

Lately Printed.

Dawſon of the Origin of all Laws. Fol.
Archbiſhop *Cranmer*'s Memorials. Fol.
The Preſent State of *England*, by Dr. *Chamberlayne*, 8o. 1694.
The Hiſtory of the Troubles and Tryal of Archbiſhop *Laud*; wrote by himſelf: Publiſhed by *Hen. Wharton*. Fol.
Whartoni Hiſtoria de Epiſcopis & Decanis Londinenſibus & Aſſaventſibus. 8o.
Archbiſhop *Tillotſon*'s Sermons of Sincerity and Conſtancy in the Faith and Profeſſion of the true Religion. Publiſhed from the Originals by his Chaplain Dr. *Barker*, 8o. 1699.
——— His 16 Sermons on ſeveral Occaſions; being a Second Volume. Publiſhed from the Original by Dr. *Barker*. 8o. 1696.
Remarks on Mr. *Hill*'s Vindication of the Primitive Fathers, againſt Biſhop *Burnet*.
Animadverſions on Mr. *Hill*'s Vindication of the Primitive Fathers, againſt Biſhop *Burnet*.
Dr. *Williams*'s Sermons of Divine Revelation, Preached at the Lecture founded by *Robert Boyle* Eſq; for the Year 1695.
——— His Vindication of Archbiſhop *Tillotſon*'s Sermons againſt the *Socinians*; and of the Biſhop of *Worceſter*'s Sermon of the Myſteries of the Chriſtian Religion. To which is annexed, a Letter from the Biſhop of *Salſbury* to the Author, in Vindication of his Diſcourſe of the Divinity of our Saviour. 4to.
Reflections on a Libel lately Printed, entituled [*The Charge of Socinianiſm againſt Dr.* Tillotſon *conſidered, &c.*] 4to.

Dr.

Dr. *Salmon* upon the *London* Diſpenſatory. The ſixth Edition. 8o. 1696.

Sold by *R. Chiſwell*,

Stephani Chauvin Lexicon Rationale, ſive Theſaurus Philoſophicus. Fol. 1692.

Baſilii Fabri Theſaurus Eruditionis Scholaſticæ cum innumeris additionibus per Aug. Buchnerum & Chriſtoph. Cellarium. Lipſ. Fol. 1692.

Ludov. Seckendorf Hiſtoria Lutheraniſmi. Fol. 1692.

Sam. Baſnagii Exercitationes Hiſtorico-Criticæ de rebus Sacris & Eccleſiaſticis. 4to. 1692.

Laurentii Begeri Obſervationes & Conjecturæ in numiſmata quædam Antiqua. 4to. 1691.

Tho. Crenii Collectio Conſiliorum de Studiis optime inſtituendis. 4to. 1692.

—— *Ejuſdem Faſciculus Diſſertationum Hiſt. Critico-Philologicarum.* 8o. 1691.

Frah. Junius de Pictura Veterum, cum multis Acceſſionibus. Rotendam. 1694. Fol.

A Diſcourſe of the Power and Efficacy of Charity. By Mr. *John Whitefoot* Senior of *Norwich*.

ADVERTISEMENTS.

HEylin's Coſmography, with very large Additions throughout the whole, made by *Edmund Bohun*, Eſq; is fitted for the Preſs, and will in ſhort time be begun to be Printed by Subſcription.

THere will be Publiſhed ſeveral Sermons and Diſcourſes of the moſt Reverend Dr. *JOHN TILLOTSON*, late Lord Archbiſhop of *Canterbury*, by order of his Adminiſtratrix. Faithfully Tranſcribed from his own Papers, by Dr. *John Barker* Chaplain to his Grace. Which are diſpoſed of to *Richard Chiſwell* and his Aſſignes. If Any Pretend to publiſh any other (except thoſe already Printed,) they are to be look'd upon as Spurious and Falſe. And the Publiſhers will be proceeded againſt according to Law.

A third Volume, Publiſhed from the Author's Originals, will be Printed in *Eaſter* Term, 1696.